

Developing a Coastal Policy,

a study of the

Sorell Coastal Area

by

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abstract

This report seeks to develop a policy for the sound environmental management of an area of the Sorell Coastline in South East Tasmania. The basic philosophy of such a policy is discussed and appropriate environmental data specific to the area is presented, along with an assessment of future environmental hazards. Particular attributes of the Sorell Coastal Area are highlighted and information pertinent to the administrative setting, within which such a policy must be implemented, is given. A future scenario for the Sorell Coastal Area is developed and general and site specific recommendations compatible with such a role are prescribed together with some guidance on policy implementation.

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chapter 1

1.1 INTRODUCTION

To the first Europeans, Australia, the island continent of the south with its immense stretches of land, was symbolic of abundance. Not abundance in the productive sense but abundance in the sense of sheer immeasurable size. It was a country the proportions of which were unknown in Europe and being sparsely populated it seemed that man was powerless to leave a mark on the landscape. Certainly there was no chance that Australia would ever be tamed and manicured to that degree of perfection for which the English countryside is famous. Some of the early settlers did attempt to produce replicas of the English countryside here and there but by and large the majority viewed the landscape with an indifference born out of plenty. Few cared for the land beyond the level of economics and even fewer were aware of the massive changes that European man was inadvertently causing. No one knew that this huge land was a fragile and sensitive system which through its isolation had remained protected and preserved for untold thousands, perhaps millions of years. This environment with its harsh and varied climates was as susceptible to interference as the most picturesque valley of the English countryside.

Amongst the new land's immensity was the unending ribbon of coastal Australia. A succession of picturesque bays, majestic headlands and long white beaches which stretched from horizon to horizon. The

coastal areas were not seen as resources but rather as just another feature which this country possessed in excess. It provided a pleasant backdrop to farmlands of the coastal plains and in the early stages the coastal areas around the larger cities were the mainstay of the communication and transport networks. Early development of industrial sites, residential and commercial enterprises all centred on the coastal margin where the prime consideration was always the availability of shipping. If in the process of such development a little of the coast was spoiled or alienated it mattered little for there was an abundance of this commodity and besides during these times the coastal area was hardly used as a recreational domain. Indeed it has been this philosophy leading up to the present day which has left the country bereft of much of its coastal beauty.

In more recent times as the coastal margin suitable for recreation has visibly diminished, the population has experienced a rather marked change in attitude. As so often happens we tend to become aware of the worth of something when it is taken away and to some degree at least this has happened with the coast. In addition, during this century there has been a marked increase in general mobility of the population together with greater availability of leisure time and both of these factors have heightened our awareness of the coastal zone.

1.2 OBJECTIVES OF THE STUDY

It was in this atmosphere of greatly increased pressure on coastal resources that this study was conceived. The objective of the study was to develop an environmentally sound strategic management plan for the Sorell Coastal Area as defined in Fig. 2.1. This study is an attempt to break away from the traditional land-use planning schemes by giving proper consideration to the environmental factors of the study area. In addition an underlying philosophy has been laid down which embodies considerations of both a social and an environmental nature. The essence of this philosophy is dealt with later in this chapter under the headings of: Non-Depletion, Appropriate Use, Social Accountability and Responsibility to Present Land Owners.

The major problem with such a study is that it requires a detailed knowledge of the area in question and for the Sorell Coastal Area virtually no resource studies have been undertaken before. Thus the first and necessary step was to gather data concerning the resource. To this end information was gathered from the field and from the limited literature concerning the geology, botany and history of the area. Although other material would have been useful, such as animal population and distribution, it was felt that the three categories above would provide sufficient basis for this study. In any event considerations of time and the size of the area involved excluded these other study options. In addition, in recognition of the fact that any policy of management has to be implemented in an established social and political framework, the study provides information on the present land use and land ownership as well as drawing attention to the administrative setting within which the Council must operate.

1.3 HISTORICAL DEVELOPMENT OF COASTAL USE

Prior to the twentieth century extensive outdoor recreation was restricted, in Europe at least, to the aristocracy. In England the recreational pursuits of the aristocrats centred primarily on inland activities such as hunting, riding and shooting, but from time to time they did involve themselves in leisure at the seaside. To this end specific seaside resorts were developed and perhaps the most famous of these was Brighton with its Royal Pavillion, the amusement parlours and the spidery iron work of its piers. Prior to the rise of the working classes, Brighton was the exclusive haunt of London's well-to-do.¹ With commuter trains providing rapid transport, Brighton was accessible and yet far enough away to provide freedom from the more unpleasant aspects of newly industrialised London. But the real rise of Brighton and other seaside resorts like Blackpool came when, as a result of the same industrialisation, the working classes became more affluent. Aided by the introduction of excursion fares they were able to mimic the rich and go down and be beside the sea. Today we accept that the coastal margin is a prime recreational site but it should be understood that for Europeans the phenomenon is a relatively new one. An article in the Times of 1860 referring to the revolution in leisure patterns



Plate 1.1 It is beauty such as this which lures people to the coastal areas. This beach near Pine Creek is singularly lacking the influences of man.



Plate 1.2 The general increase in leisure time means that greater use will be made of the coastal margin.

contained the following passage:²

"Our sea port towns have been turned inside out. So infallible and unchanging are the attractions of the ocean that it is enough for any place to stand on the shore.

. . . Down comes the excursion train with its thousands

. . . some with a months range, others tethered to six hours limit, but all rushing with one impulse to the water's edge."

Now with increased leisure time available to even greater numbers of people it is the author's contention that mankind's need of the coastal area is great and this is especially so for those societies which are modern and urban. Patmore³ suggests that the marked increase in demand for outdoor recreational activities is a direct result of the unpleasant urban environment in which people have been forced to live. But it seems more than this. The sea has fascinated poets and writers down through the ages and it seems that all of mankind whether he knows the sea well or not, is moved by the sea and the intricacies of its margin with the land. Indeed it could be argued that man's fascination with sea is perhaps an innate quality of the human mind, a calling to which, when he is released from his economic shackles, man must respond.⁴

In Australia because of low population pressure coupled with an immense coastal area we have only recently begun to realise that the coastline is a finite resource. Furthermore, few people would have been aware of the coastline even in the sense, that it could in some way be 'used up' or 'consumed'. The coast was there and that was it. True some of it had been spoiled or ruined but there was always somewhere else to go, another cove or another bay to enjoy. Now, however, we understand much more. The rapid build up of Sydney and Melbourne, the concentrated development and settlement along the coastal margin and the establishment of associated industries, sewerage systems, drainage and the like has demonstrated the devastating effect that careless development can have. Now as the prized and beautiful parts of our coastal domain are being transformed to polluted estuaries where bathers are warned against swimming and fishermen are unable to eat their catch, we are suddenly becoming aware of the losses we are incurring. The sprawl

of ribbon development along the shoreline and the unsightly spread of sub-standard semi-completed and often gaudy shacks and sheds into some of our most beautiful areas has already alienated much of the coastline. In some places access to the shoreline, a resource that should be available to all, is extremely restricted. These problems and others are now becoming paramount in Australia as is evidenced by, for example, the setting up of the Coast Protection Board in South Australia in 1972.⁵ Furthermore, they are heightened by the increased interest in outdoor activities which have strong aesthetic or environmental undertones. With our greater environmental awareness has come a much keener interest in outdoor activities which demand or involve appreciation of aesthetically pleasing areas. Australia is rather behind the rest of the world in this regard and perhaps this is a hint of things to come. In the United States experience, where patronage of state parks in that country has increased dramatically over recent years,⁶ it now has reached the stage where some areas of great natural beauty have restricted entry, having reached their maximum carrying capacity. Indeed it could be argued that man's increased environmental awareness and his greater appreciation of natural beauty is one of the more significant social changes of the century prompted perhaps by his very removal from the natural environment into the rather artificial surroundings of the cities and the suburbs.

Closely linked to the general increase in leisure time of the masses of the western world has been the more widespread availability of transport, particularly the automobile during this century. In Australia the effect has been a diffusion of man's impact on the coastal zone away from the cities to some of the more remote areas. This then has lessened the intense pressure adjacent to the major centres of population but has spread more widely the deleterious aspects of improper or unsupervised development. This being the case, it is interesting to contemplate the likely effects that our somewhat reduced mobility is likely to have in the future. In the recent fuel 'crisis' in the United States for example, it was noted that Americans changed their holiday patterns. Instead of holidaying at distant places, most Americans took their vacations at distances closer to home, in fact, 'no more than a tankful of gas away'.⁷ If such a pattern develops in Australia the effect is likely to mean an intensification of coastal

use close to the cities with a corresponding reduction of the impact at remote places. Whether this change occurs or not, we can still expect increasing land use pressures in the vicinity of cities and on those areas of natural beauty nearby.

For the Sorell coastal area this is likely to mean greatly increased patronage, as it is the closest East Coast municipality to Hobart. Thus it is doubly important that the administrators of the Sorell Municipality should be aware of the pressures to which the coastal zone is likely to be subjected. Furthermore, it is only through being prepared and equipped with a sound policy that the Council is properly able to judge impartially and objectively those land uses which are appropriate to particular parts of the coastal zone. Ideally speaking such judgements can only be made after a full and complete survey of all of the relevant environmental factors and some of these may involve prolonged data collection and quite extensive research. In the absence of such data the formulation of an environmental policy must rest on a more general principal, which in its simplest form embodies the idea of minimising impact and hence reducing or preventing deterioration. In essence this report attempts to do just that. There is little data available concerning the Sorell coastal area and as such we have insufficient facts to work with. In the formulation of this document some data has been collected but the main thrust of the report is one advocating care of the coast and the prevention of further deterioration. Attention is drawn to potential environmental hazards and activities which are inappropriate to the coastal zone or are becoming excessive to the detriment of other coastal uses.

1.4 AN ENVIRONMENTAL POLICY FOR THE SORELL COASTAL AREA

Australia has come only slowly to realise the pressures to which coastal areas have recently been put. In particular coastlines near cities have been allowed to deteriorate alarmingly and now the same pressure is being applied to more isolated stretches of the coastal domain. The Sorell Council has witnessed the developmental pressure

on its coastal areas and has already become aware of problems that can arise when these pressures become excessive.⁸ Indeed many of the coastal problems such as erosion, dune movement, devegetation and the like have only arisen because of the lack of positive policies of management in the past. The purpose then of a coastal policy is to attempt to limit problems in the future whilst at the same accommodating those activities which the coastal area is properly able to tolerate. What then are the essential components of such a policy?

1.5 POLICY COMPONENTS

1.5.1 A Policy of Non-depletion

The coastal area is a resource which requires management in the same manner as any other resource. It is a resource that is subjected at any one time to a wide range of land-use pressures. The use of the term 'resource' implies 'resource for what?'. That is, a resource has a use or a function. Such uses or functions can be one of two types. Either they can be 'man-centred' or they can be 'system-centred'. These are not absolutely separate categories but involve considerable overlap. The man-centred uses to which the coastal area can be put are those which do not involve ecological justifications. Such things as surfing, swimming, fishing, weekend retreating and most of the recreational and commercial uses of the coastal zone may be considered man-centred. On the other hand the coastal margin also has a role to play as a component of the ecological system to which any part of it may belong. In this sense the coastal area can be seen as an essential part of a greater system, a system, the well-being of which, depends on the proper functioning of the coastal area. The system-centred use differs from the man-centred use in that it will exist as a role or function whether man is present or not. It may be argued that man is part of the greater system and hence man's well-being is also dependent on the well-being of the coastal margin. This is probably true but the relationship is certainly not a direct one and the case would be difficult to defend. Managers of the coastal resource should then see that they have a two-fold function. Their management should be directed at conserving the resource and



Plate 1.3 If coastal land is to be developed for weekend shacks then much of its recreational potential will be lost. In this sense shack development is resource depletive.



Plate 1.4 How many jetties, slips and boatsheds does the community need? Much of our coastal margin is littered with such artifacts which detract from the natural beauty of the area and limit severely other coastal users.

thus ensuring the continued well-being of the system as a whole and furthermore they should seek where possible to make the resource available for non-depletive man-centred activities.

All of the pressures to which the coastal zone may be put are in some sense at least 'exploitative'. Activities such as sand mining, farming and oyster cultivation clearly fall into this category, but so too should the more aesthetic and recreational uses to which the area is put. Because there are a multiplicity of uses applicable to the coastal area it is at the one time potentially many different resources. However, all of these resources cannot be developed. Many alternate uses to which any segment of the coastal area could be put are in fact single uses which may render the area unsuitable for other uses. Clearly an area of beach land cannot at the one time be used as a tranquil retreat and a practising area for dune buggies. Nor can an area of coastal heath be used in the one instance for subdivision and at the same time be totally accessible to the public. Clearly then in working towards a coastal management policy there is a need to decide just what activities the Council expects to accommodate within the coastal area.

This is not simply a matter of decision. The Sorell coastal area already has an established pattern of use which any new policy must take into consideration. Future trends will in some degree at least be shaped by this present pattern of land use. What then are the future options that are available? What trends already exist that are undesirable and what conflicts may arise in the future? These are questions that need to be resolved if a policy is to be developed that is both practicable and valuable. In the past there has been little recognition of the coastal margin and as such much of the current pattern of use is the result of an unplanned exercise.

This brings to light a major problem associated with the coastal resource. Some uses to which coastal areas are put may in fact destroy the resource. Operations of this type are, in effect, capital depletive and, in any long term view must be seen as undesirable or at least inferior to a use which is not resource depletive.

This is best illustrated by an example. Suppose that a particular piece of land is to be devoted to one of two uses, namely soil mining or grazing. The first option, that of soil mining, is resource depletive. The second option requires that the resource be maintained. It is not resource depletive, but rather it relies on revenue being drawn off at a rate compatible with the capacity of the land to produce. This way the capital of the resource is retained.

Clearly many uses to which the coastal area is put may be resource depletive. Sand mining is an obvious example but there are others which are rather more subtle. Consider the gradual development of a coastal retreat. One of the factors that first lures people to a quiet coastal refuge is the peace and tranquility which are resources of the area. However, as more and more coastal retreaters arrive and build their weekend shacks and holiday homes, so much of this resource will be lost and the 'isolated refuge' will have moved a shade closer to the suburban situation from which these very people are in some sense retreating (See Plate 1.3). Pollution is another way that the resource may be lost and still yet another is reduced accessibility that may follow land sales. Indeed there are many ways that the coastal resource may be drastically altered and although some of these are quite obvious it is perhaps the more subtle changes that need the closest attention. Thus the first essential requirement of Council supervision, in the coastal area is that it should seek to preserve the resource through the careful avoidance of depletive policies.

1.5.2 A Policy of Appropriate Use

In order that the coastal area is used to maximum advantage, it is essential that the uses to which it is put are appropriate ones. To further clarify this point one needs to draw the distinction between coastal dependent and coastal independent activities as outlined in the Tasmanian Coastal Environment Study.⁹ As pointed out in that study the Glenorchy City Council has already adopted a set of general principles for foreshore management which emphasises the importance of appropriate use.



Plate 1.5 Agricultural activities on the potentially mobile sands of The Long Spit are totally inappropriate.
Photo P. Keage.

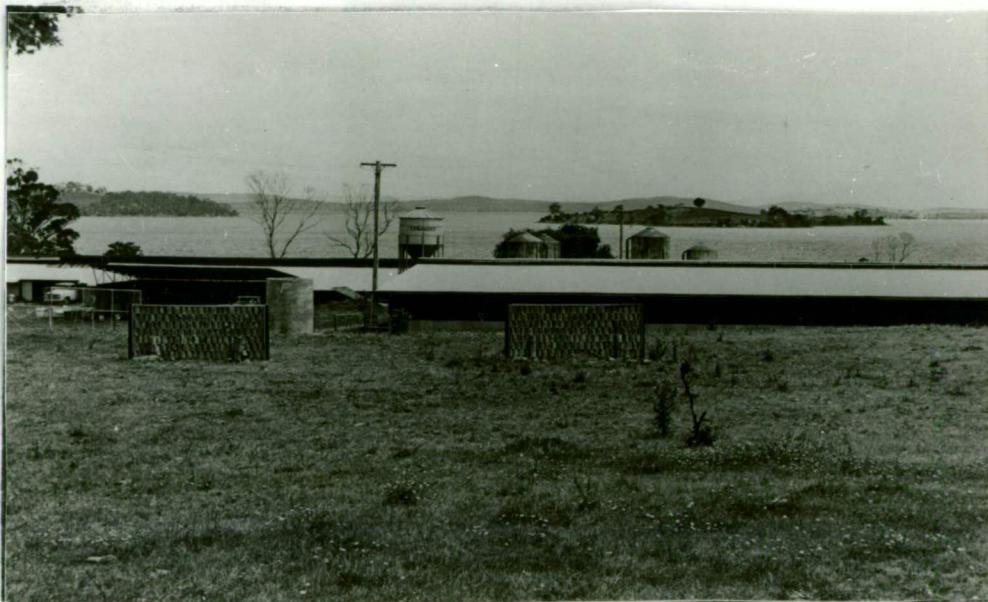


Plate 1.6 Although well maintained, neat and tidy, this chicken farm on the shores of King George Sound does not constitute a coastal dependant activity.
Photo P. Keage.

"In other words, foreshore reserve activities should be confined to those associated with water or which benefit from an aesthetically attractive location and boisterous gregarious sports should not be considered. By this argument, such sports as football, soccer, hockey, rugby, etc., where the enjoyment of the sport by both players and spectators requires constant attention should be located away from aesthetically attractive areas. Such sports as bowls, tennis, cricket, athletics, walking or just plain sitting, where attention may wander to the surroundings without loss of continuity, particularly of spectators, can be improved by location."

A policy of appropriate use then will ensure that water and seascape independent activities are not located in the coastal area and furthermore, such a policy would seek to minimise the effects of water dependent activities and associated services. For example, even those activities that are totally water dependent such as surf lifesaving, yachting and the like, should be so controlled that their ancilliary services do not have undesirable impacts. Such things as club houses, car parks, launching ramps, residences, kiosks and access roads should all be located so that the coastal amenity of the area is not damaged or reduced in any way. After all a car park whether used by surf club spectators or football club spectators will have the same detrimental effect. Any policy with 'appropriate use' as one of its themes will also attempt to ensure that buildings or structures on the coastal area are efficiently used. Often one club house suitably divided would suffice where two applications are received and much the same could be said of car parks, kiosks and access roads. By thoughtful location and careful regulation and control, the effects of such impacts can be minimised leaving much of the coastal area relatively unaffected. The concept of 'appropriate use' is closely related to the idea of 'Non-depletion'. In essence, the 'appropriate use' concept ensures that the resource suffers the minimal amount of depletion through ensuring that only those activities which require a coastal environment or an aesthetically pleasing setting are considered for the coastal area whilst other activities are directed elsewhere.

1.5.3 A Policy of Social Accountability

A further requirement of any policy of coastal management is that it should be aimed at making the resource available to the widest possible range of social groups. An argument often levelled at conservationists, is that they tend to preserve resources for the benefit of small and sometimes elite social groups. Coastal managers must avoid this pitfall by ensuring that all groups who wish to use the coastal resource in an appropriate way are, if possible, given the chance to do so.

In the Tasmanian Coastal Study¹⁰ this concept is referred to as 'social equity'. Equity however, involves the notion of equality. The society of which we speak, however, is dominated by inequalities and despite progress in recent years, no political system has as yet been able to achieve even a moderate degree of social equity. Hence it is beyond the scope of coastal managers to even attempt to adhere in principle to such a doctrine. All that coastal managers can do is to adopt a strategy, that allows the coastal area to cater for a diverse range of social groups involved in a diverse range of appropriate activities. This idea of diversity is important and is raised later in this discussion (Section 1.6) but suffice it to say at this stage that diversity and social accountability are two themes that are closely connected.

One further point needs to be made and that is that social accountability should not be seen as an inference that each social group should have access to equal areas of the coast. Indeed some coastal activities may involve large tracts of land for their fulfillment, while others may require only small areas. For example, activities such as surf lifesaving by their very nature require high densities of people whereas others like bush-walking require just the opposite. Thus it is neither possible nor desirable to divide the coast into fractions in proportion to the number of people involved.

1.5.4 A Policy of Responsibility to Present Land Users

The present pattern of land use within the Sorell Coastal Area is not

very diverse compared to areas elsewhere in the State. Partly this is because it does not include any major centres of population and also there are no large secondary industries. To some extent this simplifies the management of the zone because conflicts are at present minimal although it is apparent that firm guidance will be needed if future incompatibilities are to be avoided. Furthermore, the very absence of large scale secondary industries coupled with low population densities has been a motivating factor behind the development of the main land use pattern that has emerged. There are three dominant land uses in the Sorell Coastal Area.

The long standing land use in the area is farming. At present more than 50% of the study area is devoted to rural pursuits. These range from quite intensive farming activities such as dairying, berryfruits, viticulture, cropping and poultry raising, to the less intensive open range grazing of cattle and sheep. There are quite intensive improved pastures as well as rough bush-runs.

It is important to understand that the use of land for farming very much shapes the character of a region. It is the rural flavour of various parts of the coastal zone that makes it attractive and it is not possible to change that rural nature without changing the attractiveness. The farm and indeed the farmer, play an important part in developing the character of an area. This is well illustrated in the region between Carlton River and Dunalley where the rural and coastal features blend to produce an attractive mosaic. In the Bream Creek region, the patchwork of farm land running down to the shores of Marion Bay and edged by the eucalypt forest to the north west, gives that area its own appealing quality. Thus the farm is important not only to the farmer but to all of those associated with the area. From the point of view of the Council, the significant point is that it has a commitment to farmers and graziers operating within the coastal area and this commitment must be maintained in any future policy if drastic and possibly undesirable changes are to be avoided.

The study area also caters extensively for coastal retreaters. The post-war boom period coupled with the weekend shack philosophy has had

a marked effect on much of the area. A good deal of this development has been unplanned and unsupervised and only recently have building regulations begun to be enforced. For this reason the shack population in many places is an unpleasant eyesore and detracts substantially from the natural beauty which first lured the shack builders. Of course there are many holiday homes which do not fall into this category. Some are well maintained and blend pleasingly with the environment but as a general rule these are few and far between. In addition, there are the permanent residences, some of which are holiday homes which have become permanently occupied by retired people. The use of the coastal area for weekend shack development is probably as important now as farming. Also given that the Council is committed to the well-being of its ratepayers in the first instance, then there is an obligation on the Council to maintain those conditions which make the area attractive to weekenders. In other words, care will be needed to ensure that the coastal retreats remain coastal retreats and operations are not introduced into these areas which are incompatible with this use. This will mean also that controls on the subdivision of private land will have to be exercised if further alienation of coastal land is to be avoided.

The third major land use in the area is daily recreation. By this I mean those activities which involve the use of the area without the requirement of ownership or accommodation. Weekend motorists, fishermen, bushwalkers, picnickers, etc., all fall into this category. Although not directly funding the Council such people contribute significantly to the economy of the small towns and villages of the municipality and, with the necessity for reduced petrol consumption on the horizon, they are likely to have an even greater influence in the future.

These three dominant uses to which the coastal area has been put are of course not the only ones. Parts of the study area are devoted to a variety of other activities such as hotels, service stations, permanent-dwellings, slipping facilities and the like. All of these together form the integrated community of the Sorell Coastal Area. The point that any policy formulator must keep in mind is that future

decisions concerning the coastal area must make allowance for the land use patterns that presently exist. This is, in a sense, an obligation that the Council has to those who by their actions in the past have expressed faith in the future stability of the municipality as a whole.

1.6 CONCLUSION

In conclusion I would like to mention two fundamental threads which are implicit in the foregoing discussion but are not specifically covered. The first of these 'threads' concerns the need for the maintenance of diversity.

The coastal area is a marginal zone where land, sea and air all exist together. It is an edge, a complex zone of interacting ecosystems. The properties of edges and their influence on the biological communities they support are well documented.¹¹ The plant and animal communities which exist along a biological margin separating two systems may be quite different from those which are contained within each system. The difference in availability of light, a change in the competitive hierarchy and a greater availability of food and refuge options make edges biologically more productive. This physical and biological variety is a key property of coastal areas and the maintenance of this diversity is a task which coastal managers must undertake if coastal deterioration is to be prevented. Indeed it is the authors contention that diversity maintenance should be a central theme in any land management policy. This is in keeping with the latest policies in Europe where diversity is seen as the key concept in woodland and forest management.¹²

Diversity is also appealing to man. The increased complexity arouses and stimulates him and thus renders an area interesting.¹³ When diversity is maintained then many different social groups will find the area appealing and will be lured there. Thus as well as providing a diverse range of physical and biological conditions for animal and plant communities, the coastal domain may also be utilised in a



Plate 1.7 The tussock grasslands and the salt marsh of Boomer Island represent a component of coastal diversity often overlooked by coastal users and administrators.



Plate 1.8 Excessive burning may reduce the natural diversity of an area by altering the plant community to one dominated by fire-adapted varieties. This in turn leads to the need for more frequent firing.
Photo P. Keage.

diverse number of ways by man. This raises a conflict because man's activities may reduce the natural diversity of an area. Thus shack development, land reclamation, road building and concentrated recreational use may all reduce the natural diversity of an area and this will be reflected through reduced or absent populations of animals and birds ^{and} perhaps major changes in vegetation structure.

Such changes themselves will in turn lessen man's enjoyment of the area, the location becomes unattractive, boring and destitute. The coastal area of the Sorell Municipality would be disappointing if it was totally devoted to weekend shacks or improved pasture. Furthermore, such a situation would prevent the coastal area from fulfilling its role in the natural system of which it is a vital part. If diversity is maintained, or minimally reduced then the coastal area will remain attractive and continue to function effectively. This requires that the activities of man be properly controlled. This will ensure that such activities add prosperity to the community while at the same time it will ensure that the integrity of the area is not jeopardised and this in turn will reflect on the maintenance and well-being of the resource. However, it needs to be clearly put that to lean too heavily on financial considerations is dangerous. Undoubtedly more could be achieved with the coastal area than is currently the case but it needs to be stated unequivocally that economics should be placed a clear second to the general well-being of the resource. The use of the coastal area to earn rapid financial returns will inevitably lead to depletion of capital.

The second thread relates to the difficulty of forecasting trends and developments. Consequently there is a need when formulating policy to make as few irreversible steps as possible. In other words a further requirement of a coastal policy is that it should maintain future options. This is part of a worldwide trend in response to rapid changes that have occurred in recent years. The interdependence of nations, economies and societies, coupled with rapid technological change means that prediction has become an unreliable tool. Changes in areas quite removed from coastal activities can rapidly alter our way of life, our patterns of leisure or our

affluence and for this reason the only sensible path is to maintain a versatile approach to planning. In the case of a coastal policy we must wherever possible avoid taking steps that will permanently or irreversibly change the resource. We must keep our options open.

Thus our policy in short must preserve the resource (non-depletion) and ensure that the coastal area is used in a way that is in keeping with its qualities (appropriate use). Furthermore, such a programme should ensure that the uses to which the coast is put, are fairly distributed across the social spectrum (social accountability) and that they do not adversely affect those citizens who have already established themselves in the area (responsibility to present land users). These major concepts, coupled with the theme of diversity maintenance and option preservation are the underlying principles on which any policy of coastal management must stand.

- 1 MILLINGTON, R.J., 1979; *The Coastal Syndrome*; Centre for Environmental Studies Project Report, University of Tasmania, Hobart.
- 2 Anonymous, 1860; An article presented in, *The Times*, 30th August, 1860, London.
- 3 PATMORE, J.A., 1972; *Land and Leisure*; Pelican Books, Harmondworth, (U.K.).
- 4 MILLINGTON, R.J., 1979; *op. cit.*
- 5 BOWMAN, M., 1979; *Australian Approaches to Environmental Management*; Environmental Law Reform Group, Hobart.
- 6 BROCKMAN, C.F., MERRIAM, L.C., COTTON, W.R. and DOWDLE, B., 1973 (2nd ed); *Recreational Use of Wild Lands*; McGraw-Hill Book Co., New York.
- 7 MORROW, L., 1979; Are Vacations Really Necessary?, *Time* Essay, *Time*, June 25th, 1979.
- 8 DOBSON, J.E. and WILLIAMS, G.J.; *Managing the Erosion Problem of Small Coastal Settlements; a Proposal for Dodges Ferry, South Eastern Tasmania*, University of Tasmania Board of Environmental Studies occasional paper no.8; University of Tasmania, Hobart.
- 9 THE TASMANIAN CONSERVATION TRUST INC. (Macartney, P.N. - study team director), 1977-78; *Coastal Tasmania - part 2* (draft report), Tasmanian Conservation Trust Inc., Hobart.
- 10 *Ibid.*
- 11 MOLLISON, B.C. and HOLMGREN, D., 1978; *Permaculture One*, A Perennial Agricultural System for Human Settlements, Transworld Publishers (Aust.) Pty. Ltd., Melbourne.
- 12 CARBIENER, R., 1978; Forests or Just Trees, *Naturopa* no.31, 1978, pp 10-13.
- 13 MILLINGTON, R.J., 1979; *op. cit.*

chapter 2

2.1 DEFINITION OF THE STUDY AREA

The coastal area is a widely used concept. Each of us has an idea of what we mean by coastal areas but rarely is the term defined with precision. To some extent this stems from the multiplicity of ways the term can be interpreted and the lack of natural lines of demarcation between the coastline and the hinterland. Furthermore, many of man's activities, merge between coastal and inland areas.

Operations carried out many miles inland may have deleterious or beneficial effects on the coastline. The problem with narrow and precise definitions is that they restrict the user and confine his reference to an area often subjected to influences from outside. This has led to the idea of using watershed ridges as the limit of the coastal zone. Inevitably a coastal area defined in this way includes much land that could not normally be considered 'coastal'. The same can be said of the idea of visual catchments. Nevertheless both of these ideas have some merit whilst neither can be used in an absolute sense.

For the purpose of the detailed work in this study the coastal area for low lands has been taken as that area below the 40 metre contour. Where there are coastal cliffs such as at Hellfire Bluff and on the eastern coast of Forestier Peninsula the ridgeline immediately inland has been taken as the margin. These two techniques define the area

The Study Area as defined by the
40 m contour and the ridge line

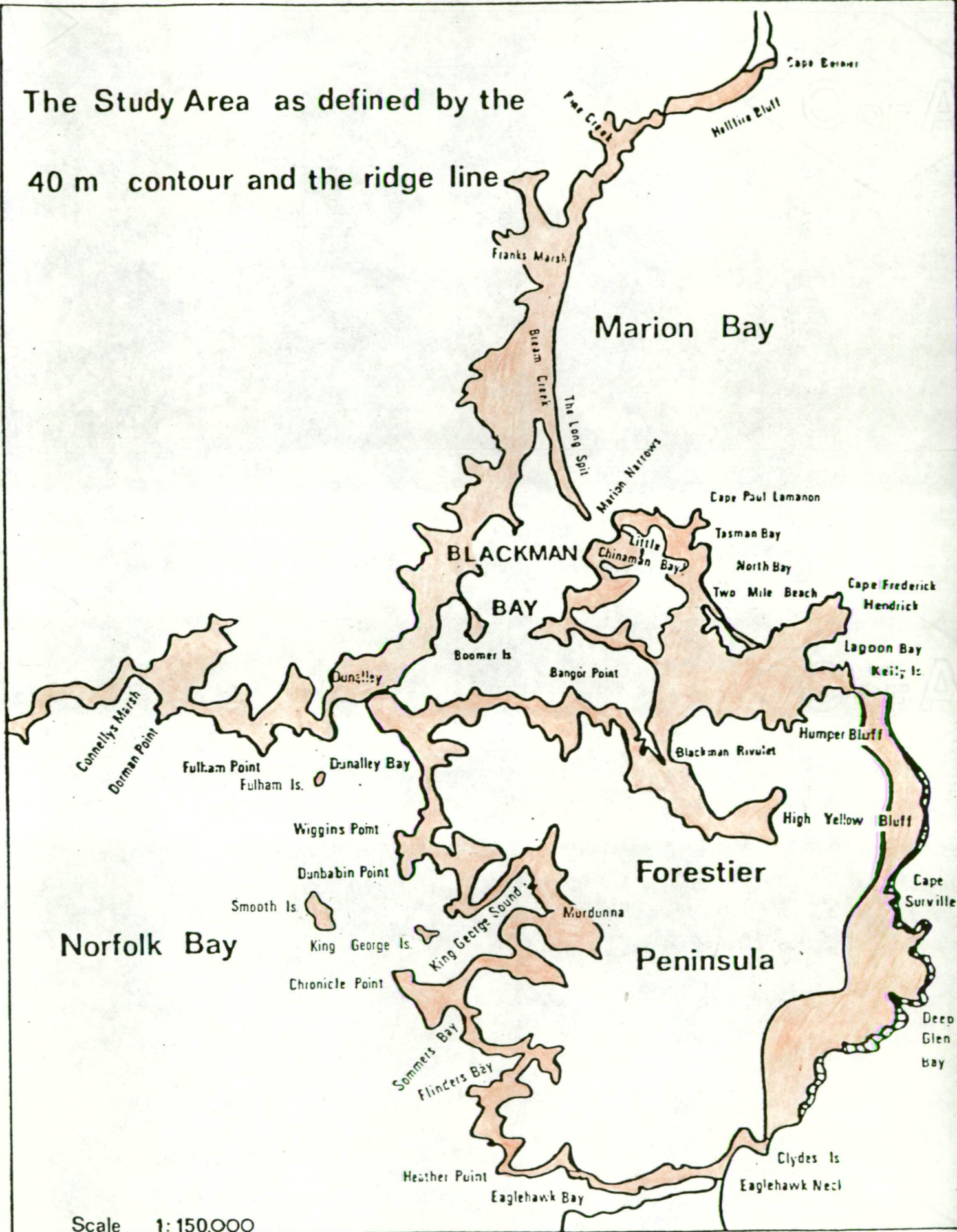


Fig. 2.1
22.

shown on Map 1. which hereinafter is referred to as the Study Area or the Sorell Coastal Area. However, the point needs to be made that if future policies are to be effective then thought must be given to areas adjacent to the coastal area. Incompatible activities adjacent to one another across the coastal area/inland margin will deplete the coastal resource just as surely as will similar activities within the zone. For this reason numerous references in this report will be made to areas outside of the study area and similarly any policy adopted by the Council will need to extend its influence into the buffer zones surrounding the coastal area. Without this capacity any coastal policy will be rendered ineffective and impotent.

2.2 LAND OWNERSHIP WITHIN THE STUDY AREA

The ownership of land within the study area at present is divided between *freehold and the Crown*. The approximate distribution is shown in Fig. 2.2.¹ The present land type pattern is shown in Fig. 2.3. By far the greater portion of the coastal area is private land. Fortunately, however, due to the foresight of earlier administrators much of the immediate foreshore has been set aside as public reserve. Whilst not contributing greatly to the ecological well-being of the study area such foreshore reserves do play an important part in ensuring that coastal areas are available generally to the public. Problems of access, foreshore subdivision and inadequate demarcation have reduced the value of the reserves to some extent but their very existence at least allows for some public control over, and involvement in, coastal activities. The foreshore reserves along with numerous other parcels of crown land are administered by the Lands Department. Also involved in the administration of land in the coastal area is the Forestry Commission. The Commission administers those areas designated as State Forest and is responsible for the total management including revegetation in this category. Within the study area the State Forests extend to highwater mark even in areas where coastal cliffs more than 100

Land Management in the Study Area

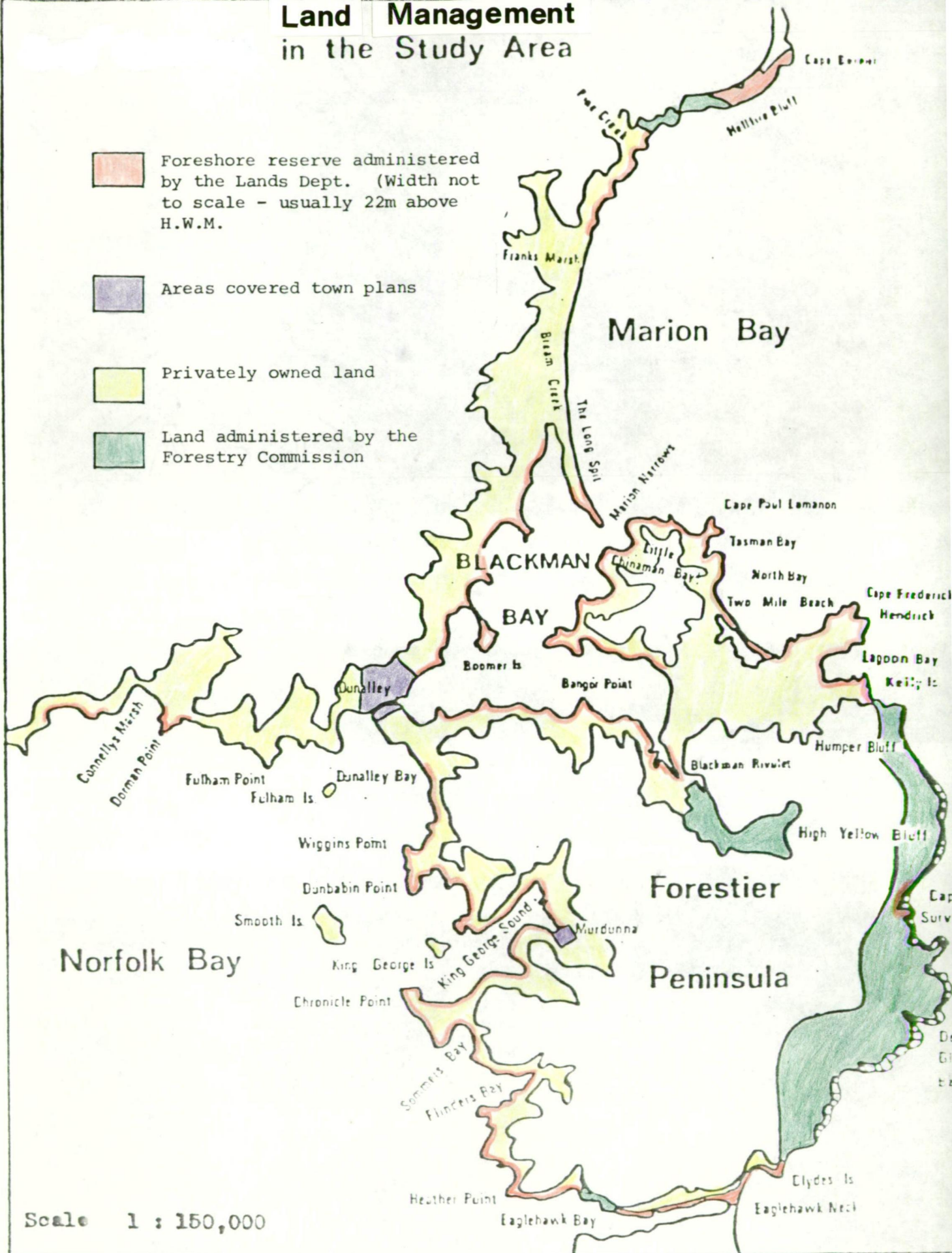


Fig. 2.2

Land Types in the Study Area

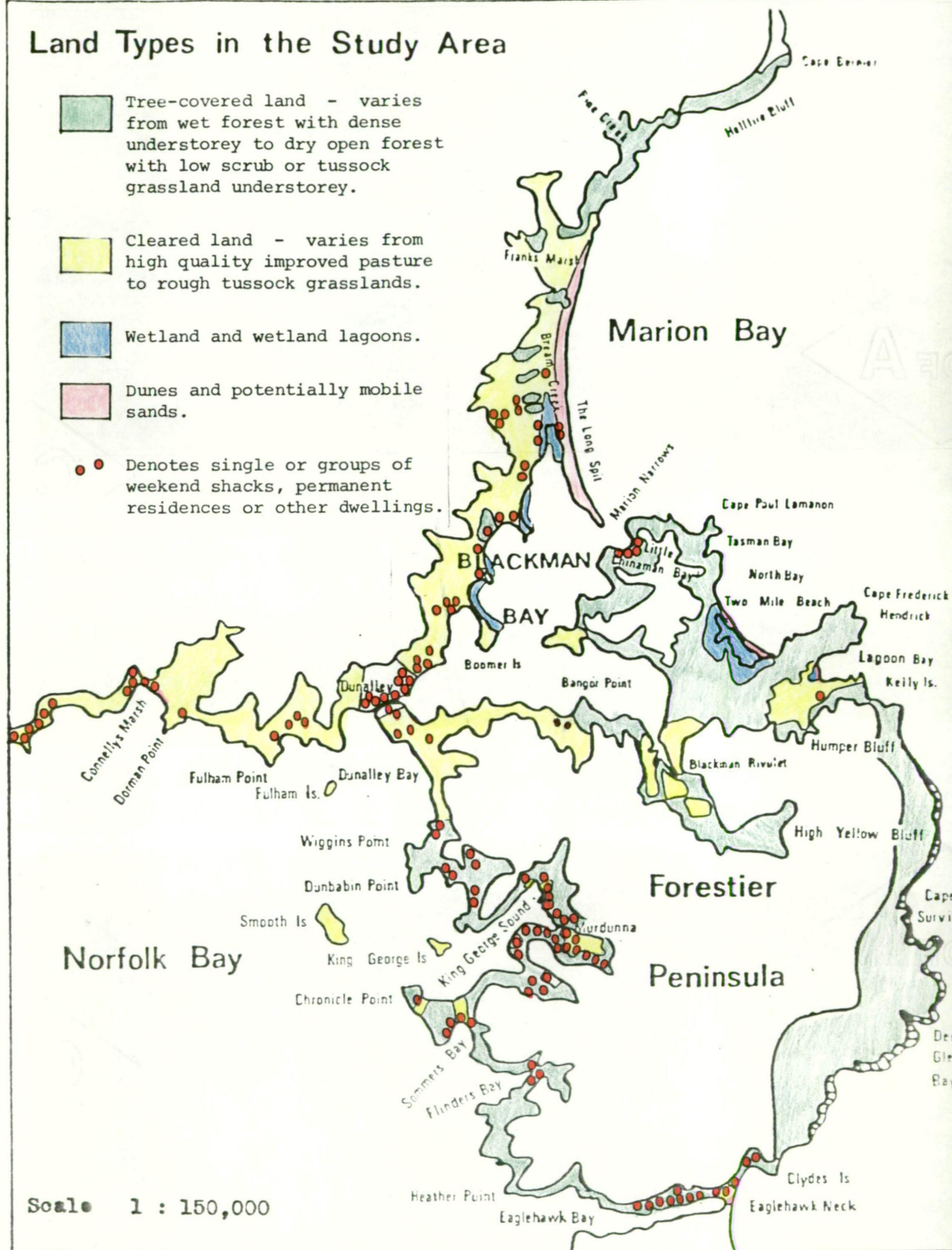


Fig. 2.3

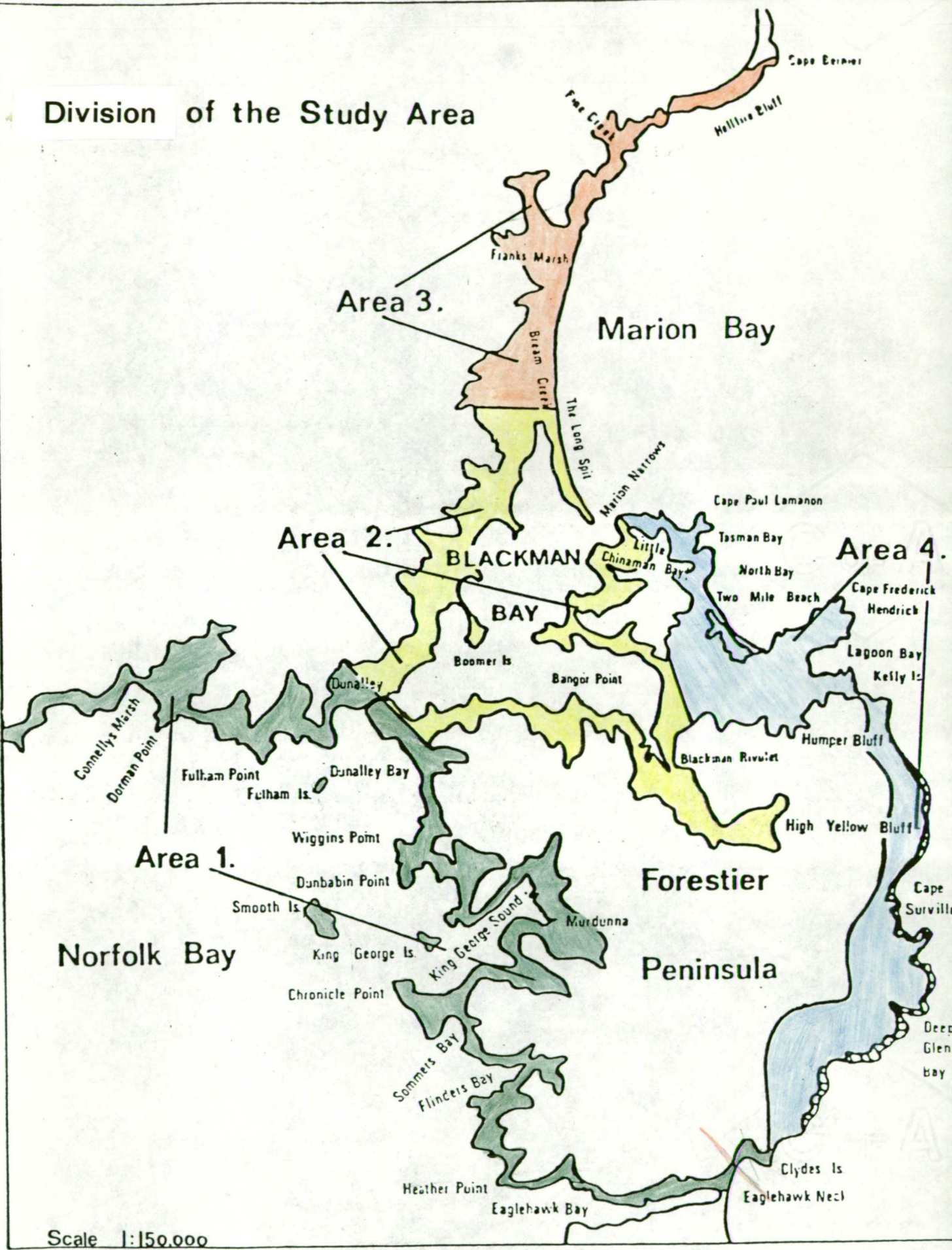
metres high occur. The Forestry Commission also supervises forestry operations in some crown land administered by the Lands Department. In these instances the Commission controls the harvesting but is not responsible for the total management programme. Such things as fire protection, 'pest' control, etc., are left to the Lands Department as the Crown administrator.

Private land ownership goes back to the earliest days. Many of the lots were originally granted or sold during the last century and some boundaries extend down to highwater mark. The jurisdictional boundary between private owners and the Marine Board who exercise control below high water mark is often complicated. This is especially so in areas where the high water mark is diffuse such as in wetlands and saltmarshes where the complex array of small channels, draining islets and mud banks make precise demarcation well nigh impossible and cloud the enforcement of certain land use practices. The tradition of private ownership in Tasmania and indeed in Australia generally has to a large extent obscured the role of public or common land. Within the study area this is reflected in the almost total disregard of public right of ways and access to public land. Fences and deterrent notices often deflect the public from areas to which they rightfully are allowed to proceed and the almost total absence of signs indicating the presence of right of ways and public reserve land tends only to consolidate the private land owner to the detriment of the public as a whole.

2.3 Division OF THE STUDY AREA

The Study Area defined above is located in the south eastern part of Tasmania and encompasses the entire coastline of Forestier Peninsula together with areas to the north and west. For the purposes of this discussion the area has been divided into four reasonably discrete segments which approximate to natural geographic divisions. Area 1. is that part of the coastal area which borders Norfolk Bay, a stretch of almost land-locked water formed by the dual peninsulars of Tasman

Division of the Study Area



Scale 1:150,000

Fig. 2.4

and Forestier. The northwestern limit of Area 1. is Primrose Point and the southeastern limit is the isthmus at Eaglehawk Neck. Blackman Bay (Area 2.) is another major subdivision of the Study Area. Open at its northeastern end through Marion Narrows and at its southwestern end by the Denison Canal, Blackman Bay is a wide shallow stretch of water with the small township of Dunalley as its focal point. The two remaining segments form the eastern coastal margin. Area 3. stretches from Hellfire Bluff and Cape Bernier in the north to part-way down the Long Spit of Marion Bay. Area 4. extends from Marion Narrows south to Eaglehawk Neck and includes the rugged eastern margin of Forestier Peninsula.

2.4 THE ENVIRONMENTAL ASPECTS OF EACH AREA

A fundamental requirement for the formation of an environmental management policy for any area of land is a knowledge of the land in question. Thus before one can formulate adequate policies one must know the qualities and quantities which are characteristic of the resource. In the case of the Sorell Coastal Area very little data of this type is available and so much of the time allocated to the preparation of this report has been devoted to the gathering of raw data. An important aspect of data collection concerns the nature of the data to be considered. Ideally one would like to be able to consider all of the information concerning a particular area but constraints of time and resources make compromise inevitable. Three major aspects of each area have been considered in the preparation of this report. These are botany, geology and history. The author felt that these three aspects would lay the foundation for informed environmental decision making. It is clear, of course, that a knowledge of the zoological aspects, particularly marsupial populations would have added greatly to the stock of information, however, it was felt that the gathering of such data would have, of itself, constituted a single project. The inclusion of history as a parameter of environmental decision making also warrants some explanation. Man and his environment is not a function purely of the present but

rather at any one time he represents the culmination of a sequence of events which stretch back through the ages. Thus history is a significant aspect of man's cultural environment or heritage and as such historic sites warrant special treatment when matters of the environment are being considered. This is particularly so for the Sorell Municipality which is already bound up in the early history of Tasmania by virtue of its proximity to Tasman Peninsula and the existence on its own coastline of historically significant areas.

The detailed data relating to each segment of the study area is collected in Appendices 2, 3, 4 and 5. Because of the cumbersome and extensive nature of this data, and in order to bring problem areas into focus, attention is drawn in the following sections to potential and current environmental hazards. This concept of environmental hazards warrants some further explanation. In essence the environmental hazards maps presented in Figures 2.5, 2.6, 2.7 and 2.8 are the culmination of much of the investigative work of this study. They represent the carefully weighed judgements of the author made in the light of all of the available data. Although many of the decisions rest primarily on objective data it is nevertheless important to realise that subjective assessments are involved too. Estimates of such things as likely future development trends are at best questionable and when combined with the tenuous policies of government authorities and the realities of the physical and biological systems of the coastal area one is inevitably confronted with a high degree of subjectivity. Nevertheless, it is the author's contention that the environmental hazards outlined in the following sections will clearly be revealed as potential trouble spots by anyone who carefully weighs the evidence. One further point concerning these environmental hazards needs to be made. They do not represent an inflexible base on which to rest decision making. They are an attempt by the author to focus on future problem areas and as such are subject to change with alterations in land ownership, development patterns or changes in land use pressures. Not only is the coastline a complex margin responding to the dynamic nature of the physical and biological environment but also it changes in response to the fluctuating pressures of the social, economic and administrative structures of man.

2.4.1 Area 1. The Norfolk Bay Margin

The coastal area within Area 1 is divided almost equally between rural land and dry eucalypt forest. The rural land occurs predominantly in the northwestern segment while the dry eucalypt forest is mainly confined to the area south of Dunalley. This entire area is a low profile coastal zone of alternating rocky headlands and quiet protected bays. The almost land-locked nature of Norfolk Bay means that it is free of ocean swells, thus making it particularly suitable for small boats. A number of attractive small islands occur close to the shore and these coupled with an intricate coastal margin make the entire area a most appropriate recreational domain.

An important aspect of this coastal area is its relationship to the total coastline of Norfolk Bay. The embayment is a part of the Tasman Peninsula, Forestier Peninsula, Carlton complex and in a sense it is the focus of virtually all the recreational pursuits of those that frequent the area. Along with farming the other major land use is clearly related to coastal retreating and associated recreational activities. This role for the Norfolk Bay area has been further advanced by the establishment of a State Reserve by the National Parks & Wildlife Service in the vicinity of Lime Bay, and by the existence of the convict ruins at Saltwater River which are becoming a popular additional destination for tourists visiting Port Arthur. There seems no real reason why the pursuits of the coastal retreaters and the farming community cannot continue to be compatible although it is clear that both activities will need controls if the natural attributes of the area are not to be jeopardised.

The environmental hazards for the Norfolk Bay coastline are presented in Fig. 2.5. The major problems of the area have been caused by a general lack of controls over subdivision of land and weekend shack development. At present the pattern of shack development is tending to be linearly controlled along the coastal margins thus leading to extensive alienation of coastal land. Associated with such developments are problems of visual amenity maintenance, vegetation preservation and general environmental degradation. Indeed it seems that

THE NORFOLK BAY COAST

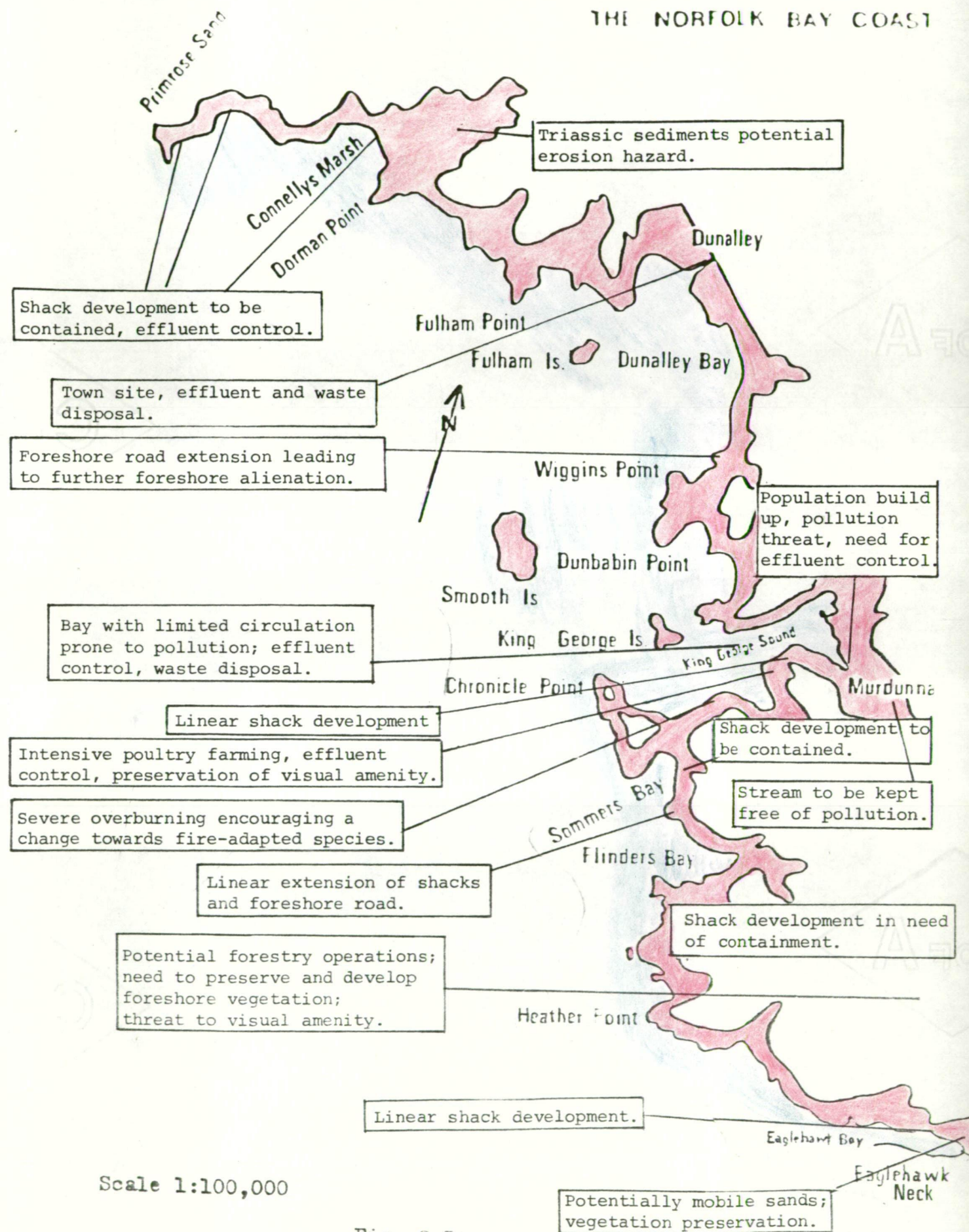


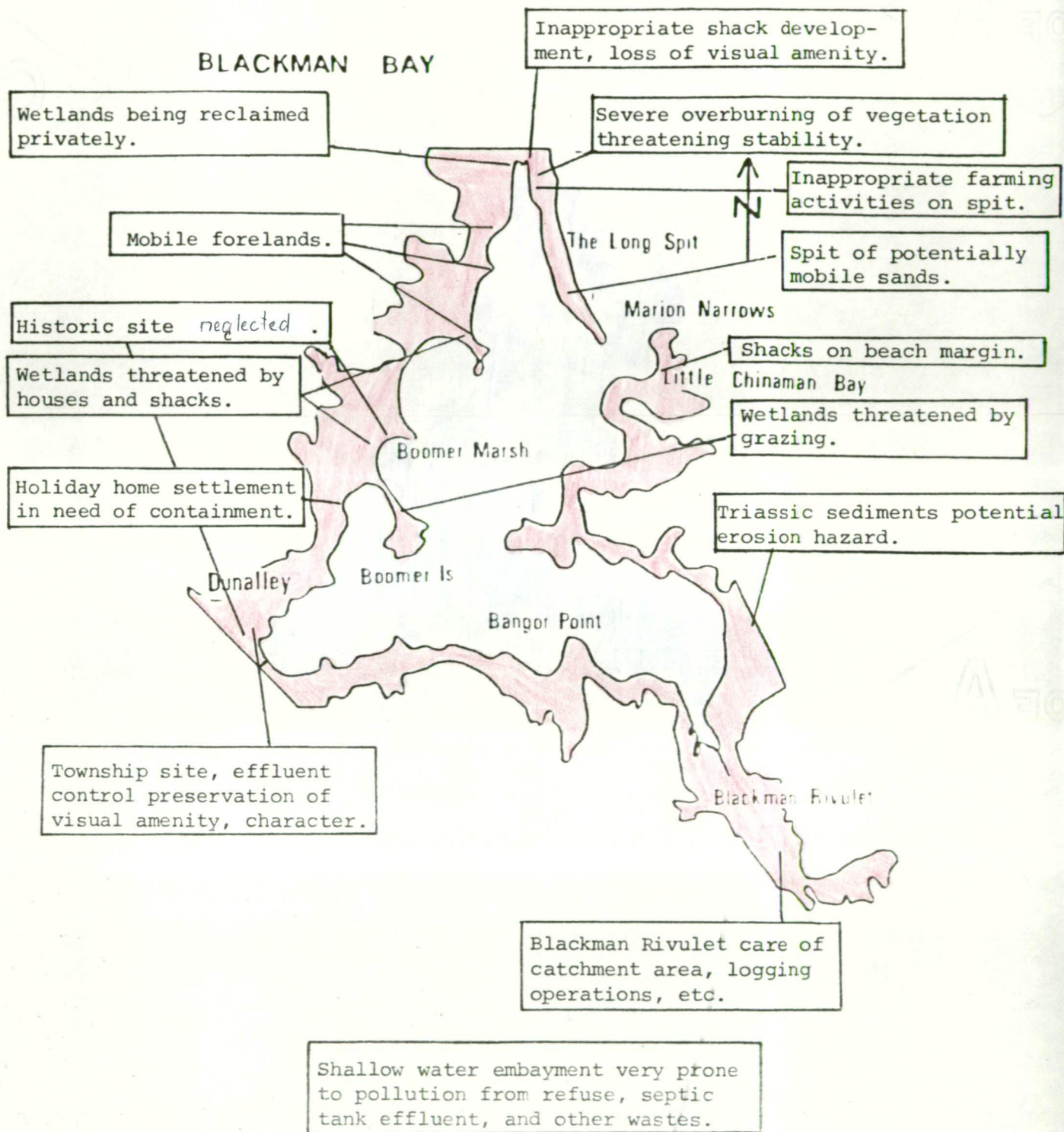
Fig. 2.5

if this pattern is allowed to continue there is a real risk that those attractive qualities which lure people to the area will be lost completely. A detailed discussion of the weekend shack problem is presented in Appendix 1. A further complicating problem of the Norfolk Bay area is the fact that the bay is served by a limited water catchment and in consequence through put and circulation of water is restricted. This coupled with high holiday populations means that many of the streams, rivulets and bays of the area are potential pollution hazards. For this reason rigid effluent control will be needed if waterway contamination is to be avoided and the recreational potential maintained. In the rural parts of the area some over clearing of land has left the region deficient of natural vegetation. This is especially so in the northwestern segment where many of the headlands and parts of the immediate coastal margin would benefit from the protection and enhancement of small groups of trees and associated natural understorey.

2.4.2 Area 2. Blackman Bay

Area 2 centred around Blackman Bay is the area within which there is the greatest concentration of permanent residents. Development is concentrated at Dunalley in the southwestern corner of the Bay although both shacks and permanent residences are fairly continuous along the entire northwestern margin. The bay itself is almost land locked with openings to the sea occurring only at Marion Narrows in the northeast and the Denison Canal in the southwest. Being shallow and subjected to active tidal scouring it is a system which is particularly prone to alteration by the activities of man. Furthermore, its shallowness coupled with marginal salt-marshes and wetlands makes it a significant habitat for a wide variety of aquatic fauna and there seems little doubt that Blackman Bay is important ecologically over a much larger area than the size of the bay and its environs would suggest. The environmental hazards for Area 2 are collected in Fig. 2.6 and more detailed information is available in Appendix 3.

One of the primary environmental concerns centres on the maintenance of the wetlands and salt-marshes along the bay margins. In some



Scale 1:100,000

Fig. 2.6

areas they are being privately reclaimed and subjected to other abuses such as grazing and dumping. Another aspect of Area 2 is the mobile nature of some of the bay margins. Many of the smaller spits and forelands of the northwestern margin of the bay show evidence of current movement indicative of the dynamic nature of the embayment. Potentially mobile sands also occur on The Long Spit at the northeastern end of the bay and at present the stability of this system is being threatened by both vegetation reduction and inappropriate rural activities in the vicinity of dune sands. The bay is also prone to deleterious effects which may be generated at distant locations. For example, clear felling operations on steep slopes in the catchment area of Blackman Rivulet leading to stream silting could significantly alter the shallow water ecology of Blackman Bay. In this respect it is important to appreciate that such shallow water areas provide a protective nutritional environment for a host of marine organisms and are often the breeding grounds for many species.

Historically both the township of Dunalley and the bay itself have much to offer. The Denison Canal is the only operating ship canal in Tasmania and steeped as it is in the history of the area it is a significant attribute of which much more could be made. Furthermore, the Boomer Marsh area is considered to be the location where Tasman's first exploratory party landed in 1642 and as such this area has a significance far greater than that which it has been assigned. To the extent that these aspects of the area have been overlooked and are at risk of being lost through inappropriate development they represent environmental hazards and are included in Fig. 2.6.

2.4.3 Areas 3 & 4. Marion Bay and East Forestier Peninsula

Although designated as separate entities for the purposes of presentation, Areas 3 & 4 in fact represent a geographical continuum stretching to the north and southeast of The Long Spit. These two areas together represent the least developed segments of the Sorell Coastal Zone and they link the coastal areas of Spring Bay with those

of the Tasman Municipality. Both areas have similar climatic conditions related primarily to their easterly aspects and the elevated regions receive higher rainfall than elsewhere in the Study Area. Consequently the cliffs and high bluffs along this margin support typical rainforest understoreys beneath a eucalypt canopy. There is an overall moisture gradient along this margin with the wettest areas occurring near the southern extremity of Area 4 in the vicinity of Mt. Macgregor, with progressively drier bluffs to the north.

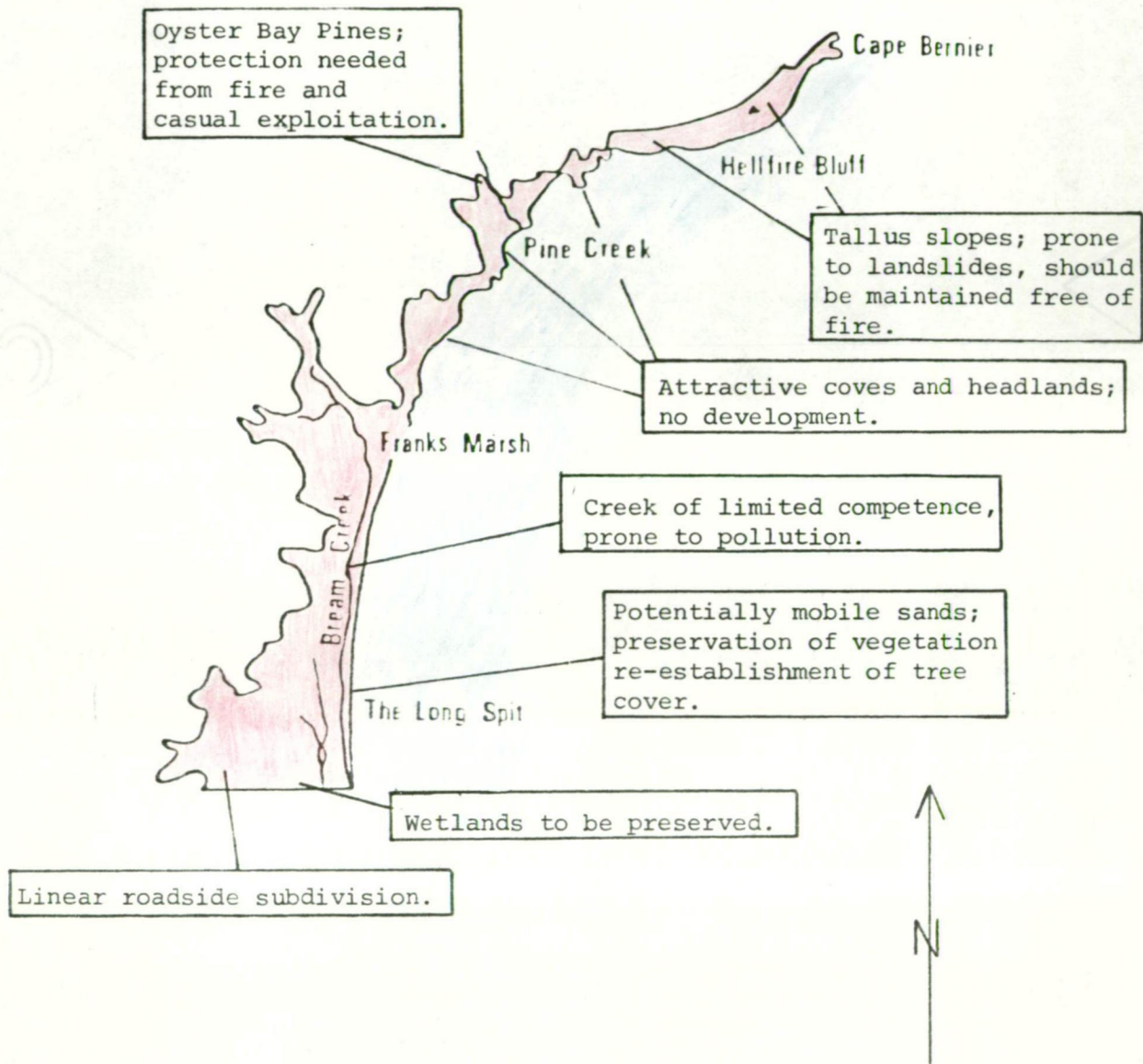
Areas 3 & 4 represent a real challenge to environmental policy formulation. In particular these two areas, together with that segment of The Long Spit included in Area 2 illustrate the need for an integrated approach to land management. Much of the appeal of this part of the coastline is derived from its sweeping vistas and panoramas. The diversity which results from high rugged cliffs and sheltered coves and long ocean beaches is another aspect of the area which requires careful maintenance. With the exception of a group of holiday shacks on The Long Spit and some others at Eagle Hawk Neck, this entire area is free of shack development. Nor is the area dominated by coastal roads. In fact, these attributes are virtually unique in the Sorell Coastal Area, all other beaches and coves being dominated by either roads and shacks or both. A detailed discussion of both areas is given in Appendix 4. The environmental hazards are collected in Figs. 2.7 and 2.8.

The major environmental problems of this region centre around the fact that at present the qualities of the area are in general not widely appreciated. It is an area which thus far has been overlooked. Furthermore, it has been afforded a high degree of protection simply by virtue of its inaccessibility. Thus at the present time any 'improvement' in access represents a threat to the well-being of the area unless the 'improvement' is achieved as part of an integrated protective management plan. There is at present a real danger that casual, unplanned and incidental changes in accessibility could lead to rapid deterioration of parts of the region.

AREA 3.

Environmental Hazards

MARION BAY



Scale 1:100,000

Fig. 2.7

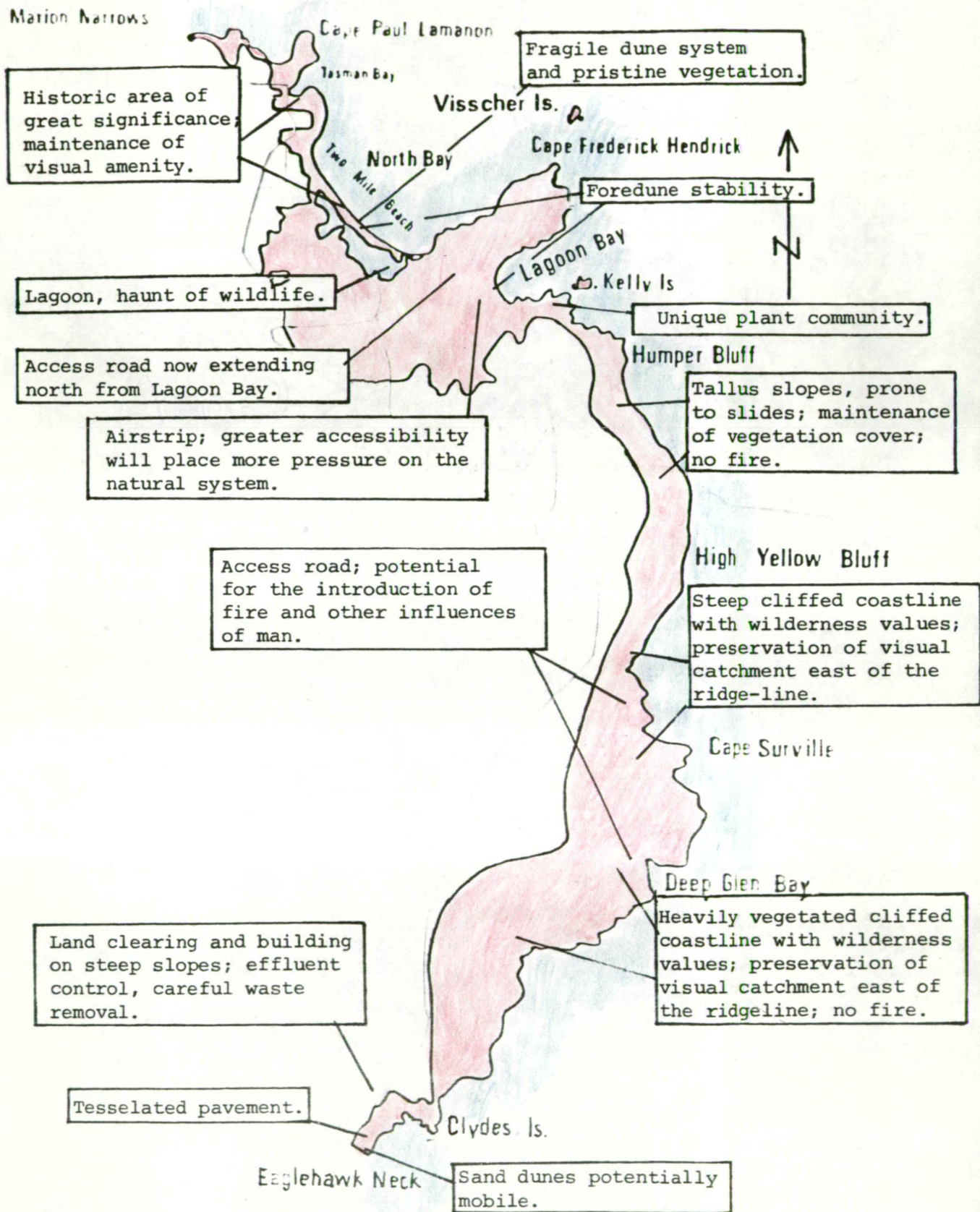


Fig. 2.8

Scale 1:100,000

The central theme of any such management plan should be the protection of the proposed 'Tasman Historic Parkland' at the northern end of Area 4 in the vicinity of Tasman Bay and Two Mile Beach. This aspect is discussed in Chapter 3. However, in terms of integrated planning the 'Wilderness Trail Area' to the south of the 'Tasman Historic Parkland', The Long Spit and natural area in the north of Area 3, as far as Cape Bernier, are of comparable importance. In addition to these major zones of importance the region also features steep tallus slopes, easily mobilised dune sands and wetlands particularly prolific in bird life. Thus in terms of management, this eastern margin of the Study Area, with ownership split between public authorities and private land owners, all with different views and aims for their respective areas, is especially vulnerable to damage. From both the point of view of its historic qualities and its natural attributes, the strength of this area lies in the fact that it has been little altered by man and as such any long term management plan must seek to preserve this state of affairs.

¹ Information regarding land ownership was provided by the Lands Department.

chapter 3

In the last chapter a brief description of the Sorell coastal resource with its associated environmental hazards was given. However, in the author's opinion one segment of the Sorell Coastal Area warrants the very best care and attention that the community can provide. Because of the significance of the Marion Bay region to this State and to the Nation, this chapter is devoted entirely to aspects of that region. It is my contention that this parkland area should be central to any coastal policy adopted by the Council and that in the future its significance to the community as a whole will become paramount.

3.1 THE MARION BAY REGION - A Case for Conservation

The Sorell coastline in the vicinity of Marion Bay, from Cape Bernier in the north to Wilmot Harbour in the south and including the north-eastern end of Blackman's Bay is an area of great historical significance to Tasmania. Being a place where European man is first recorded as stepping ashore in this island state,¹ it is perhaps not unreasonable to regard it as our single most important historic site. It is also an area of considerable natural beauty and there is evidence that it was an important centre as an aboriginal dwelling place prior to the decline of the native population.² Indeed the aborigines first made

contact with Europeans along this coastline through the French explorer Marion Du Fresne.³ This first encounter proved fatal for at least one aborigine, thus, in some way perhaps setting the scene for the unhappy relationship that was ultimately to follow. The region also has historical links of a more recent nature and these together with the fact that much of the area is still in a relatively undisturbed and pristine state give strength to arguments favouring its protection.

3.1.1 Historical Associations of the Region

The contention that the region was a significant dwelling place for the Tasmanian aborigines is supported by the existence of extensive middens. In the vicinity of Hell Fire Bluff at the northern end of Marion Bay there are substantial amounts of kitchen bedding and some stone implements have been collected from these sites.⁴ Middens also occur in the southern part of the area especially on the bluffs separating the beaches at Cape Paul Lamanon and Cape Frederick Hendrick. This is not surprising as the coastline in this region is much more habitable for a race of people, heavily dependent on sea foods, than are the surrounding areas. Further south the coastal Cliffs of Forestier Peninsula are steep and precipitous and although access in some spots would have been possible for the aborigine in search of shellfish it would not have been suitable as a more permanent dwelling place. It would seem that the most suitable dwelling areas for these people were those which included sheltered and semi-enclosed waters close to oceanic coastlines. The Marion Bay region fulfils this requirement perfectly. In addition the rather gentle undulating region of Wilmot Harbour, North Bay and Bream Creek offered freshwater lagoons which were (and still are) rich in bird life and would have encouraged other wildlife into the region. During those times when the ocean was too turbulent to allow shellfish to be gathered the aborigines would have been able to direct their food gathering activities either to the sheltered waters of Blackman Bay or to the wildlife of the lagoons and surrounding countryside. The geography of the area also lends itself well to



PLATE 3.1 Rugged Kelly Island near Lagoon Bay. The locality has been little altered since Tasman approached this coast nearly three and a half centuries ago.



PLATE 3.2 The entrance to the lagoon at Two Mile Beach where, on December 3rd., Tasman's party came ashore to gather water but found it too brackish.

hunting. Most of the points in the vicinity of North Bay and Blackman Bay are peninsulas and these would have provided ideal locations where game could be herded and caught.

Our knowledge of pre-history in Australia is scant and in particular little is known about the Tasmanian aborigine, his culture and his activities prior to the arrival of Europeans. Nevertheless, it should be remembered that there is a whole realm of history that stretches back into the mists of time. That we are at present ignorant of this does not lessen its potential importance and some thought needs to be given to the significance that regions of intense aboriginal activity may be seen to have in the future.

^{recorded}
The history of Europeans in Tasmania began when Abel Janszoon Tasman brought his two ships the *Heemskereq* and *Zeehaen* to anchor in Marion Bay on the first day of December, 1642.⁵ Tasman's anchorage was in the vicinity of Visscher Island off Two Mile Beach.⁶ On the very next morning after their arrival an exploratory party rowed through Marion Narrows, past Little Chinaman Bay and into the almost totally enclosed waters of Blackman Bay.⁷ It was on this outing that they saw wild ducks, geese and gulls and everywhere signs of man.⁸ They gathered native vegetables (probably herbs) and heard strange muted callings presumably made by the aborigines.⁹ Pilot Major Francoys Jacobz Visscher who was in charge of the long boat expedition also reported trees up to two and half fathoms thick some of which had steps hacked into the bark fully five feet apart.¹⁰ It was this observation that led the Dutch explorers to conclude that the country was occupied by a race of giants, although J.B. Walker¹¹ makes the point that the early navigators had a fixed idea that these southern lands were inhabited by men of great stature. The exact point of Visscher's landing on this first day has been the subject of some controversy among historians. Curtis and Sommerville¹² after an interesting botanical and historical survey concluded that the exploratory party landed at the salt-marshes near the mouth of Boomer Creek and this has been supported by Meston.¹³ Furthermore, such an interpretation agrees with the location on the Gilseman chart which

shows the 'Water Plaats' as being on the western shore of Blackman Bay.¹⁴

Actually no one in Tasman's expedition saw the aborigines of Van Diemens Land. Prior to reaching their anchorage they had seen smoke rising from the shore and on their first exploratory trip in the long boat they noted camp fires in many places and that the 'earth was here and there beaten down and burnt as hard as stones by the lighting of fires on it'.¹⁵ The second expedition to the shore took a party in search of water to the southeastern end of Two Mile Beach. Here they discovered the quite large lagoon now known as Swan Salt Lagoon which lies behind the dunes of North Bay. The journal records that the sea had broken into the lagoon rendering the water brackish and salt. This was the third day of December and with the weather still bad a decision was made to make preparations for leaving. Before doing so, however, it was resolved to formally take possession of the land by planting the Prince's flag.¹⁶ With this in mind two boats were despatched that same afternoon to the southeastern corner of North Bay where the lagoon opens to the sea. But the wind strengthened and the sea began to rise further such that one of the boats had to return to the ships. The second boat in which Tasman himself rode altered course towards the small inlet at the northern end of North Bay close in under Cape Paul Lamanon. But even here the sea was too rough to safely land and thus it came about that the carpenter Peter Jacobszoon swam ashore through the surf and planted the Dutch flag.¹⁷ This little bay with its shingle bar and rocky shores is now appropriately known as Tasman Bay. (Although it has been argued by some¹⁸ that the landing took place at the north-western end of Two Mile Beach and not in the inlet which lies a kilometre to the north. With the wind continuing now more northerly Tasman remained at anchor until next morning when with the wind shifting to the west the two ships were able to weigh anchor and sail up the coast before departing for New Zealand.

The historical associations of the area do not end with the visit of Tasman. For the descendants of the Tasmanian aborigines the area has a rather macabre and sombre significance for it was here that



PLATE 3.3 Marion Narrows. It was through this narrow stretch of water that Pilot Major Visscher guided the first exploratory party on December 2nd. 1642.



PLATE 3.4 The monument at Dunalley.
 Photo P. Keage.

Europeans and aborigines had their first confrontation. In 1772, more than one hundred and thirty years after the Dutch landing, Marion du Fresne guided his ships, the *Mascarin* and the *Marquis de Castries* to Tasman's anchorage. Walker¹⁹ contends that Marion's landing party came ashore at North Bay on Two Mile Beach. The natives openly approached the group and rebuffed the first attempt to land with a volley of stones and spears. A similar greeting arose from the second attempt but this time the Frenchmen fired on the natives killing one and wounding several. Thus North Bay was the site of the first and fatal contact that the Tasmanian aborigines had with European man. Marion's party recorded a description of a Tasmanian aborigine, the first ever to reach Europe. Marion du Fresne did little exploration of the countryside but he did note the presence of pines (the Oyster Bay Pine) in the vicinity.

*"There seems to be only one species of pine tree,
much smaller than ours which does not suffer
from burning."*²¹

Others also have visited Marion Bay. Baudin, commander of the French scientific mission, arrived in 1802 and anchored his two ships the *Geographe* and the *Naturaliste* in the Mercury Passage²² the channel separating Maria Island from the Tasmanian mainland. The members of Baudin's expedition were the first, if not the only people to develop close communication with the Tasmanian aborigines although most of this was achieved in other places particularly on Bruny and Maria Islands. Nevertheless, while they were anchored in Mercury Passage one of their boat crews under the command of Henri Freycinet spent eight days exploring Marion Bay from Cape Bernier to Cape Frederick Hendrick. During this excursion the region was properly charted for the first time. Freycinet entered Blackman Bay and charted it as far as East Bay Neck²³ and established for the first time that the region to the south was in fact a double peninsula and not an island as had been suggested by others. It was at this time that Forestier Peninsula received its name and Cape Bernier was named after the astronomer on the expedition.²⁴ Cape Paul Lamanon, the rocky headland to the north of Tasman Bay, was named in memory of an unfortunate member of La Perouse's expedition, by the same party.²⁵

After settlement bay whaling stations were established in the area and the names of two of these stations, Gardiners and Watsons, still apply today to their respective locations just northwest of Cape Paul Lamanon. These whaling stations had ceased operations by 1845.²⁶ Wilmot Harbour also played a part in the post settlement era for it was here that cattle were landed and fattened from New South Wales before being herded to Port Arthur's penal settlement.²⁷ The channels which the convicts dug to drain the lagoon²⁸ behind Wilmot Harbour are still visible today and are recorded on the maps of the Tasmanian Government Lands Department. Wrecks also have added to the historical colour of the area although in a rather morbid way. In 1852 the Schooner *Zephyr* was blown ashore on the long white spit of Marion Bay Beach in the vicinity of Bream Creek. All told eight passengers lost their lives with just one woman being saved.²⁹ Much more recently in 1942 the twin screw motor launch *Say When*, last seen in the vicinity of Schouten Island was washed ashore at Wilmot Harbour.³⁰ The bodies of all five members of the crew were found under kelp piled high on the beach.³¹ There are probably many other historical aspects of the area that are yet to be revealed or that others already know of. We have mentioned here the principal ones and those that are revealed by a cursory study of the available literature. However, even such a study as this indicates the rich, varied and colourful past with which the area is endowed. Before concluding my arguments in favour of planned protection of the region I shall briefly look at Marion Bay and its surroundings as it is today.

3.1.2 The Marion Bay Region Today

Perhaps the most startling fact about the area is that if Tasman was able to return to his anchorage today he would probably be able to note little change. The east coast of Forestier Peninsula which he approached is rugged and inhospitable. There are at present few signs of man's activities in this area and the region at least south of Wilmot Harbour is quite uninhabited except for the immediate area of Eaglehawk Neck. To be sure if he looked more closely he would notice changes. Brimming over the hills from Copping and down to the

wetlands behind Marion Bay Beach are the signs of agriculture and much of the land around Blackman Bay is affected in the same way. But the snow white sand stretching north to Hellfire Bluff is the same now as it has always been and the bluffs of Cape Paul Lamanon and Cape Frederick Hendrick devoid now of native fires still jut seaward protecting the bays and inlets between.

The currents which Tasman himself noted still flow rapidly through the narrow stretch of water separating the southern end of the Marion Bay spit from Little Chinaman Bay. Deceptively quiet in good weather this spot can rapidly become treacherous as tide and wind interact among a maze of shoals and channels and kelp strewn reefs to produce seas that test the very best of seamen. It was into these waters that the first Dutch exploratory party rowed and on a quiet day one can almost sense the feelings of these men, ignorant of this new land and its people, as they guided their boat into the enclosed waters of Blackman Bay. Today there are holiday dwellings along the shores of Little Chinaman Bay but otherwise this immediate area is much as it would have been then. These shacks are the only ones in the vicinity of the first landing, the rest of the immediate area of Cape Paul Lamanon and North Bay being quite devoid of human activity.

The little inlet of Tasman Bay is a place of quiet and scenic beauty. Nestled as it is under the protection of Cape Paul Lamanon the inlet is more sheltered than the surrounding area. The foreshore is rocky and a shingle bar extends partway across the bay separating the inner cove from the outer one. In rough weather the swell breaks dangerously on this bar and much of the conjecture³² about the exact location at which the Dutch flag was planted centres around this fact. The monument is located in the inner cove but it seems unlikely, in view of the bad weather at the time, that Tasman's party would have ventured across the bar. Indeed it would seem to be unseaman-like and a foolish thing to do. The weather had been from the east at first and then subsequently from the north, a combination which would have given rise to quite hazardous conditions in this bay. The tall gums grow right down to the waters edge but now they show the signs

of white man's fire and not the native fires of Tasman's day.

South from Tasman Bay is Two Mile Beach, a beautiful and deserted area of clean white sand and clear water. Behind the dunes the large lagoon is still rich in wildlife and the water still somewhat brackish. Out offshore is rugged Visscher Island, a precipitous and clefted outcrop which stands defiant to the sea. Between North Bay and Wilmot Harbour is equally grand Cape Frederick Hendrick, its covering of light scrub and forest still largely intact. In this southern region of Marion Bay it is only Lagoon Bay (Wilmot Harbour) which has shown much change and even here the change is only slight. Behind the dunes there has been some clearing of the land for agricultural purposes, and this together with a lonely hut, some sheep yards and a fence or two are the main impacts. The convict channels are still vaguely visible and the rough access road to the area allows campers to set up during the holiday periods. Recent moves have led to the establishment of an airstrip for light aircraft behind Lagoon Bay. This will inevitably increase the pressure on the area still further and careful management will be needed to prevent degradation of the region generally.

3.1.3 Significance of Pristine Historical Sites

It is important to understand that this region is not in anyway inferior because it lacks visible evidence of its historical connections. In Australia in particular it seems that history is almost habitually associated with old buildings and ruins and there is a strong tendency to feel that without such edifices there can be no demonstrable history. Such is clearly not the case. To better understand this one must appreciate the significance of ruins and man-made structures to historic sites. Then it is possible to demonstrate that the geographical features of an authentic historic landscape may provide the same type of historical symbolism as an authentic historic building.

A person wandering through the ruins at Port Arthur is indulging in an

exercise of the mind. Standing at the doorway to Smith O'Brien's cottage for example, one is easily able, in the mind's eye, to transport one's self back to those early days and imagine what life might have been like, or what the feelings of individuals were as they stood in that same place a hundred or more years earlier. The more serious student of history might support his imagination by wider studies and further knowledge but the process nevertheless is the same. In other words the buildings and the ramparts, the bridges and the walls, provide us with solid reality on which to lean our imaginative wanderings. They are the means which allow a connection to be made from one period to another. They give history a reality which otherwise it might not have. They act therefore, in the same symbolic way as does a church in that it provides a real and solid structure with which we can reach out to something far less tangible. The historic building has an advantage over the church in this respect in that it is authentic. That is, it has had actual physical contact with those to whom the student of history is attempting to communicate. Thus authenticity and reality are the qualities which historic sites possess which make them significant to people interested in the past.

These qualities however, are not limited to ancient buildings. Landscapes which are of historical significance also may exhibit the qualities of authenticity and reality. In other words it is quite possible to use a pristine historic site, like the Marion Bay area, in the same way as visitors use the Port Arthur Historic Site. The Marion Bay area in the vicinity of Tasman's anchorage has shown little change since the days of his visit and it is quite possible to allow one's imagination to wander back to 1642 and to sense the excitement and perhaps fear that the early navigators would have felt as the sun rose to disclose this unknown land on that first morning. J.B. Walker, one of Tasmania's most noted historians, illustrates this process as he describes in his mind's eye the scene as Tasman's boat crew head towards the small bay where they were to plant the Dutch flag.³³

*"As she approaches we can see on board of her
Tasman himself, and some of the Heemskerk's*



PLATE 3.5 Lagoon Bay which has only slightly been influenced by the activities of man, is a picturesque haven on this rugged eastern coastline of Forestier Peninsula.



PLATE 3.6 Visscher Island as seen from Two Mile Beach.

officers; Gerrit Janszoon, the master; Abraham Coomans, the super cargo; and Peter Jacobszoon, the carpenter. The surf breaks violently on the shingle and Tasman finds that to land in such a sea is impossible without great danger of wrecking the boat. Must he then, after all sail away without taking formal possession of the newly discovered land? There is a short deliberation as the rowers rest on their oars, and then the carpenter, Jacobszoon, hastily throws off his clothes, plunges into the sea, and pushing his flag pole before him, strikes out for the shore. Making his way through the surf, he lands on a shingle beach and there at the foot of the steep slope, where four stately gums stand in a crescent on the hillside, he plants the flag of the Prince Stadtholder. We can imagine the cheer which greeted (Sic) the raising of the flag as the carpenter, in the name of the States-General thus took possession of the new territory of the Great South Land."

In the United States the concept that historic landscapes may have virtues in their own right and hence be worthy of preservation is well understood. The National Historic Park of Cumberland Gap is a prime example.³⁴ Cumberland Gap is a park of 20,000 acres (approx. 8000 hectares) shared between the states of Kentucky, Virginia and Tennessee. It is a wild area, a pass through the Appalachian Mountains, originally used by buffaloes and Indians in their annual migration but later to become white man's main access route to the American hinterland. The only buildings in the entire park are five farm buildings built in 1904 and these have been preserved as part of the park environs. The first European went through the Gap in 1750 and the area has some connections with Daniel Boone who was instrumental in marking out part of the wilderness trail from Cumberland Gap to areas of Kentucky.³⁵ The point that needs to be made with respect to Cumberland Gap Historic Park is that it is a Historic Park and yet it is a wild area virtually devoid of the marks of man. In the United States it is seen as an area of great historical significance and as such it has been afforded the highest protection that the country can offer.

The United States takes its history seriously and recognises the

importance of history as a real revenue earner. They see historic landscapes within the National Park system as areas which require special attention for their preservation and to this end the Department of the Interior has published a book dealing specifically with the Administration of such areas.³⁶ The National Park Service of the United States defines Historic Sites (ground or terrains) as areas or places which are ". . . importantly associated with historic events or persons . . .".³⁷ There are numerous other examples that one could quote from overseas. Battle grounds in Europe such as Waterloo and Cullodden Moor are two such cases where the significance of the site relies on its association with an event in the past and not on buildings and structures. The beaches on the coast of Normandy provide further examples. Tourists (Americans in particular) flock to these wide flat beaches so that in their mind's eye they can go back to the allied invasion and using the landscape in a symbolic way they are able to capture in some degree at least, the atmosphere of the historic day.

The concept of Historic Landscapes is perhaps best developed overseas but there are real signs that Australians are now coming around to this way of thinking. In Tasmania the recognition that the site of our first settlement at Risdon Cove was worthy of preservation is just such a sign. None of the original buildings are present now but the site is to be protected and this is really a reflection of the pure historical significance of the area although it must be admitted that signs of man's earlier presence are everywhere to be found. Perhaps a better local example is the Historic Site of D'Entrecasteaux's Watering Place near Middleton in South East Tasmania. Both these areas are classified as Historic Sites and fall under the administration of the National Parks and Wildlife Service and they are afforded protection equal in status to that of a National Park.³⁸

The concern for Historic landscapes is further demonstrated in the Heritage Commissions Register of the National Estate.³⁹ Included in this list of places which are seen to be significant from the point

of view of our cultural heritage is Oyster Cove because of its associations with the last of the Tasmanian aborigines and Adventure Bay, an anchorage and watering place for many famous seamen including Cook, Bligh and Furneaux. The inclusion of places on the National Estate Register does not in itself, at the present time, mean very much, but it does indicate that concern for landscapes is already a fact of life in Australia.

In the light of this increasing concern for authentic and relatively undisturbed historic landscapes it seems quite remarkable that the region of Marion Bay and in particular the smaller area in the vicinity of Tasman Bay, has not been declared a historic site. The fact that the area is largely privately owned may be a contributing factor to this state of affairs, but even so, its importance as a national monument, and in particular its importance to Tasmania must not be underestimated. In any case its inclusion on the Register of the National Estate does not in any way limit private ownership of the area. It does, however, provide for the possibility of financial assistance to the owner in order that the area can be maintained in a manner appropriate to its importance. Ironically the region of Tasman's landing as the place where Europeans first set foot on our island state, is undoubtedly far more important than say, D'Entrecasteaux's Watering Place which is already on the Register of the National Estate and furthermore, is afforded protection by the National Parks and Wildlife Service. The fact that much of the area has changed little since the days of Tasman and that it possesses great natural beauty in its own right, merely adds to the case.

It is then the author's contention that such a piece of land as this, is an asset of both national and local importance. The Council, as one of the administrators of the coastal resource, has an obligation both to its ratepayers and to the wider mass of the Australian people. It would be difficult to overestimate the importance of the region especially in the future as Australians begin more and more to establish an identity and recognise the rich cultural heritage of which they are a part. The detailed recommendations with respect to

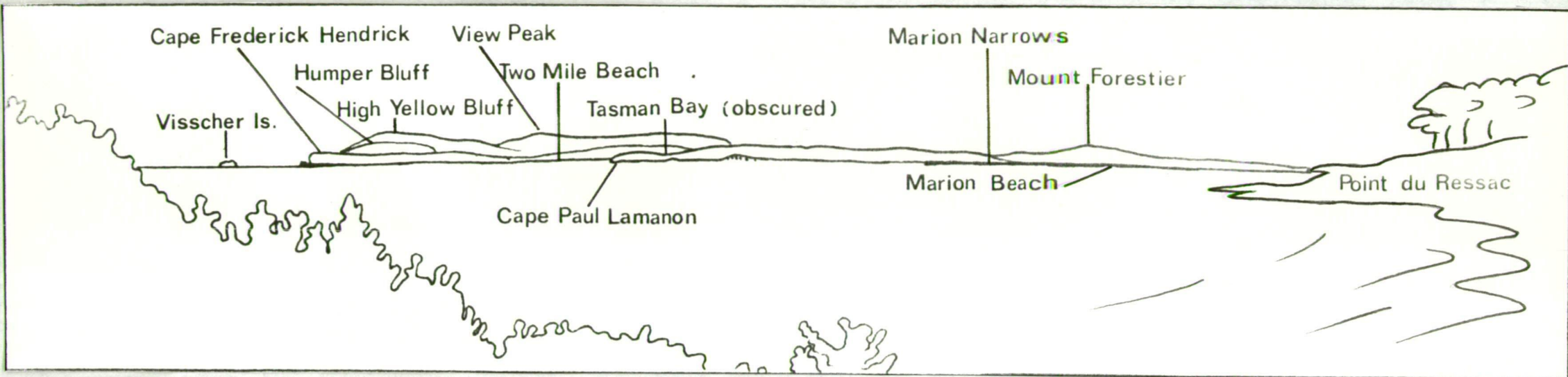


Plate 3.7 Marion Bay as seen from its northern-most end. The Bluff in the immediate foreground is adjacent to the mouth of Pine Creek.

the Council's role in administering this part of the coastline are dealt with below, but suffice it to say at this stage that the responsibility shall be a heavy one to bear. The region, despite its little-altered state, is already showing the early signs of degradation (at least in some parts) and care will be needed to prevent further deterioration. In Little Chinaman Bay small holiday shacks have been built which are accessible only by boat and these in themselves detract considerably from the atmosphere. The building of an airstrip for light aircraft behind Lagoon Bay will further increase pressures on the area. Campers also have limited access to Lagoon Bay (Wilmot Harbour) and the greater mobility given to the weekend fisherman by fast runabouts will make maintenance of the region in its pristine state difficult, to say the least.

It is worth noting that the area has in general been free of interference because it has been subject to limited public access as a result of being private property. In this respect the owners of this land in the past have shown commendable responsibility. However, it is doubtful whether any private land holder, in this day and age, has either the resource, or the time available, to maintain a site of such significance, free from deterioration under the increasing pressures that modern day recreational trends are liable to produce.

3.2 THE TASMAN HISTORIC PARKLAND

The creation of an historic parkland in the vicinity of Tasman Bay and Two Mile Beach is a departure from the present land-use practices in the Sorell Municipality and as such some consideration needs to be given to the consequences of such a resolution being adopted. The present owners of the land and their forebears have been respected residents of the district over a number of generations and they in turn have managed the land in a responsible manner throughout this time. They have in general made the area accessible to those who have wished to go there and they have willingly assisted botanists,

naturalists, historians and the like, to learn about the region. In short they have a love and respect for the area that is commendable and it behoves the Sorell Council to ensure that the responsibility that the family have exhibited is not dishonoured by inappropriate action. The land central to the parklands is not farming land as such but some rough bush grazing has occurred in the area and for this reason there is little likelihood that tight control measures would have adverse effects on the running of the property. The buffer zone on the other hand would include the cleared land at Lagoon Bay and the control measures would need to allow for sheep and cattle grazing and perhaps grass hay production in this area. There is no reason why farming activity should not be carried out in the buffer area although controls on further clearing would need to be exercised.

In the light of the Dunbabbins families care of the area in the past perhaps the most appropriate course of action would be to seek a co-operative arrangement between land holder and Council for the park creation. The Council could obtain the advice and perhaps participation of the National Parks and Wildlife Service. Such joint arrangements for management of parks are not at all unknown in Tasmania and the National Parks and Wildlife Service, although having definite preferences on park management arrangements, do have an open mind on such arrangements.⁴⁰ It is worth noting that some of the most famous parks in the world, are owned by private institutions or individuals. An example of such a park is Lands End in South West England which is privately owned but does receive financial assistance from patrons and government and semi-government bodies.⁴¹ Such mutual arrangements between park authorities and private landowners may also be of considerable value to the owner too. They ensure that the natural assets of the land are utilised in an appropriate way and that funds and expertise are available to carry out the tasks necessary for proper care and management. Thus the financial burden of caring for relatively un-productive land is removed from the owner whilst he can still be reassured that the land is not abused or ruined. Indeed with the involvement of a body with the experience

PROPOSED "TASMAN HISTORIC PARK"

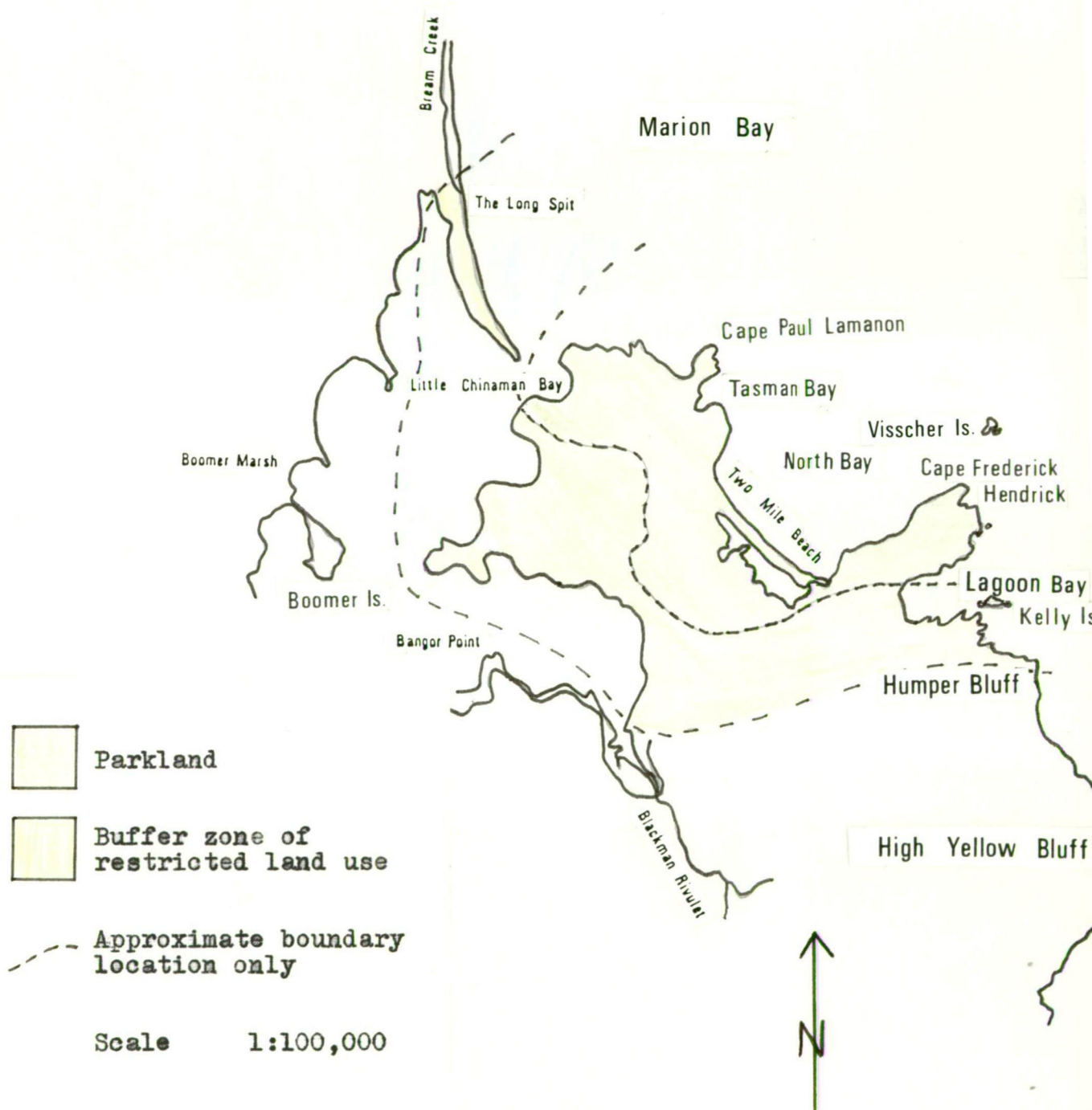


Figure 3.1

and competence of the National Parks and Wildlife Service the owner can be confident of a high level of professional expertise. There are of course many other alternate arrangements but it is important that whatever path is adopted it should be done in close and co-operative consultation with the present land owners. Among the other possibilities are such things as the securing of an option for purchase in the fore-seeable future, moving to place the area on the National Estate register, immediate purchase by the Council or by the National Parks and Wildlife Service. In the interim period the parkland and the buffer zone should be zoned so as to protect it from further degradation and the co-operation of the present owner should once again be sought in this regard. The point needs to be emphasised that this parkland is potentially ^{one of} the most important natural historic areas in Australia and its importance should transcend parochial differences and difficulties.

The areas outlined on the map (Fig. 3.1) are approximate ones only and are intended to show roughly the areas required for adequate park development. Clearly detailed studies would be required before precise boundaries could be determined and this would be a matter for the administrative authority to determine. However, it is unlikely that an area much less than that depicted in Fig. 3.1 could be considered adequate especially in view of the necessity to preserve visual catchments.

- 1 WALKER, J.B., 1888-1899; *Early Tasmania*, third impression printed in 1950, Paper read before the Royal Society of Tasmania, Tasmanian Government Printer, Hobart.
- 2 Tasman himself recorded abundant evidence of man as did subsequent French explorers, who actually made contact but also there are quite substantial middens in the area.
- 3 TRIEBEL, L.A. and BATT J.C., 1957; *The French Exploration of Australia with Special Reference to Tasmania*, published jointly by the University of Tasmania and the Tasmanian Govt. Printer, Hobart.
- 4 The authors have collected numerous stone implements from these localities.

- 5 WALKER, J.B., 1888-1899; *op. cit.*
- 6 *Ibid.*
- 7 *Ibid.*
- 8 *Ibid.*
- 9 *Ibid.*
- 10 *Ibid.*
- 11 *Ibid.*
- 12 CURTIS, W.M. and SOMMERVILLE, J., 1948; Boomer Marsh - A Preliminary Botanical & Historical Survey, *Papers and Proceedings of the Royal Society of Tasmania*, 1948, p.151-157.
- 13 MESTON, A.L., 1953 (after the authors death); Some New Aspects of Tasman's Visit to the East Coast of Tasmania in 1642, *Papers and Proceedings of the Royal Society of Tasmania*, vol.87, pp.167-174.
- 14 CURTIS, W.M. and SOMMERVILLE, J., 1948; *op. cit.*
- 15 REYNOLDS, J., 1964; Some Recollections of the Tasman Memorial Controversy, 1922-24, A paper read to the Historical Research Association on 12th May, 1964, *Tasmanian Historical Research Association Papers & Proceedings*, Vol.13, No.2.
- 16 WALKER, J.B. 1888-1899; *op. cit.*
- 17 *Ibid.*
- 18 MESTON, A.L., 1953; *op. cit.*
- 19 TRIEBEL, L.A. and BATT, J.C., 1957; *op. cit.*
- 20 *Ibid.*
- 21 *Ibid.*
- 22 GIBLIN, R.W., 1928; *The Early History of Tasmania; The Geographical Era 1642-1804*, Methuen & Co. Ltd., London.
- 23 *Ibid.*
- 24 *Ibid.*
- 25 *Ibid.*
- 26 LORD, C.E., 1924; General Account of the Tasmanian Field Naturalists Club Easter Camp at 'The Narrows', Marion Bay, Forestier Peninsula.
- 27 PETERSEN, F.A., 1948; Botany of Wilmot Harbour, *The Tasmanian Field Naturalist*, Vol.1, No.3.
- 28 *Ibid.*
- 29 O'MAY, H., no date; *Wrecks in Tasmanian Waters 1797-1950*, Tasmanian Government Printer, Hobart.
- 30 *Ibid.*
- 31 *Ibid.*
- 32 REYNOLDS, J., 1964; *op. cit.*
- 33 WALKER, J.B., 1888-1891; *op. cit.*
- 34 National Park Service - U.S. Department of the Interior, no date; Cumberland Gap National Historic Park, an information pamphlet for visitors to Cumberland Gap, published by the United States Government, Washington.
- 35 *Ibid.*
- 36 United States Department of the Interior, 1973; *Administrative Policies for Historical Areas of the National Park System*, U.S. Government Printing Office, Washington.

- 37 *Ibid.*
- 38 Personal Communication with Stephen Morris, officer with the
National Parks & Wildlife Service, Hobart.
- 39 Commonwealth Govt. of Australia, 1978; Register of the National
Estate, Commonwealth of Australia Gazette No.G 11,21 March
1978, Australian Government Publishing Service, Canberra.
- 40 Personal Communication G. Middleton, National Parks & Wildlife
Service.
- 41 NEAVE-HILL, C., 1975; *Lands End My Heritage*, Jarrold & Sons
Ltd., Norwich.

chapter 4

The Council is one of a number of authorities that manage land in the municipality. Keage¹ has previously discussed the wider administrative setting within which local councils must operate. However, of more direct concern to the Council is the question of policy compatibility between the various managing authorities. After all, there is little point in the Council pursuing one long range plan, if other institutions with authority in the same area are working in a totally different direction. There is then a need for an integrated approach to management of the area and this in turn reflects the need for a consensus view of the future role for which the area is destined. In this chapter I propose to discuss the policies and guidelines under which the major public land management authorities operate. It is my contention that there is very little incompatibility between a sound environmental management programme and the operations of these public land management authorities and that, furthermore, there is a general consensus view of the most appropriate role for the Sorell Coastal Area.

4.1 PLANNING AND THE ENVIRONMENT

Any discussion of environmental management is inevitably involved with planning. Questions of environmental concern are intrinsically con-

cerned with changes and alterations which are to have an effect in the future. Planning too is primarily future-orientated. In recent years planning has become fashionable and has been seen by many as a way of avoiding in the future many of the unsatisfactory circumstances that have already arisen today. In hindsight we draw the inference that had we planned our development we would have avoided today's difficulties. Such a view is an oversimplification although few would deny the worth of planning merely because it is fraught with difficulties and most would accept the fundamental underlying philosophy that man can exercise some control over his destiny.

There are, of course, many different types of planning. Bowman² identifies three types which commonly occur in Australia. These she calls - regulatory, operational and policy planning. Policy planning occurs at the level of State and Federal government. In Bowman's words,

"It includes the integrated development and management of specified areas like growth centres and other similar projects; it also includes aspects of regional development and broad scope land management and finally what might be called 'planning for planning'."

In a sense it is policy planning that one must look to in order to ensure a degree of consensus concerning the destiny of a particular area. Furthermore, it is policy planning about which there is the greatest degree of misunderstanding. Because plans must be formulated amidst a particular set of circumstances and at a particular time and under the umbrella of a particular political party or persuasion, they are at best tentative and subject to change. Thus it is not surprising that in Tasmania a statement from the Minister for Economic Planning and Development, when referring to developmental guidelines, should say,³

"... it is recognised that a dynamic package is required - that is, a range of developmental approaches capable of refinement and change in the light of experience and according to altered circumstances."

The concept that planning at policy level is in fact an ongoing process, has also been put by Wilde⁴ and it seems indeed to be a notion now widely acknowledged. The very absence of some overall inflexible master plan may seem to some to be both surprising and confusing because it throws into doubt the role of the planner at policy level. Should the planner then be merely an instrument of response to popular trends or should he assume a leading or directive role? Often when a community looks to planners for guidance it finds that the planners themselves are being guided by community trends or fashions. Such a dilemma confuses greatly the role of planning in general and policy planning in particular and casts doubt on whether planners even have a role to play in a democratic community, and it is just such doubts that prevent policy planning as such from exercising much of an influence over decision making at local government level.

It is operational planning which is likely to have a much greater affect on the Sorell Coastal Area. Operational planning is that which is carried out by the land managers in the area when they make decisions concerning fund allocation and resource development. Operational planners in the study area include the Forestry Commission, the Lands Department, the Department of Main Roads and numerous other government departments, which in the day to day decision making regarding fund expenditure and development projects will exercise planning judgments and hence influence the role of a particular area. This aspect is made more significant by the fact that many such authorities have considerable autonomy and some are not under direct ministerial control.

Regulatory planning as Bowman⁵ points out, is the most widely used control mechanism and it is what most local government bodies perceive as 'planning'. The planning scheme which the Sorell Council is at present preparing,⁶ is a zoning scheme of the statutory planning type. Primarily it is an attempt to avoid incompatible activities within the municipality. In this sense such a scheme does have common ground with a proper environmental strategic plan.

However, zoning type planning schemes are primarily development orientated and usually pay only scant attention to real environmental factors. Statutory planning schemes relate predominantly to direct man-centred uses for land and it is on this point that they differ from ecological plans. The ecologist as opposed to the developer sees both use and non-use as appropriate roles for land. The developer on the other hand sees non-use as being, in a sense, wasteful or even wrong. Ecological planning involves the view that the man-centred, productive use of land is but one of many functions or roles that a particular piece of land may fulfill and furthermore, that there is a need to preserve the multiplicity of land types and biological communities if impairment of function and interaction is to be avoided. This is the key point that separates developmental planning from environmental planning.

For most local government authorities policy planning in general has very little influence on their operations unless their particular municipality has, by virtue of a unique asset or some historical or biological consideration, been given a particular role to play. For example, it could be argued that the Tasman Municipality, with Port Arthur as one of its cornerstones and its rural and scenic qualities as another, has been set aside by consensus as being a municipality within which, historical, biological and aesthetic aspects are not to be jeopardised in favour of other more development-orientated activities. It is apparent that such a consensus view of the Tasman Municipality does make environmental land management in the area much easier as many of the conflicts associated with development are avoided. It is the author's contention that the Sorell Coastal Area could and should be treated in the same way. Apart from the fact that the Sorell Coastal Area has qualities which, in their own right, are worthy of the greatest care, the fact that it also abuts the Tasman Municipality adds further weight to the contention, and makes integrated planning far more attainable. It has been argued elsewhere in this report that part of the Study Area located on Forestier Peninsula can appropriately be regarded as part of an integrated unit including

both Tasman and Forestier Peninsulas and Norfolk Bay. The acceptance of such a view would mean that comparable policies of environmental care should be exercised across the boundary between the Sorell and Tasman Municipalities.

As far as the Sorell Council is concerned, the government authority concerned with planning is the Town and Country Planning Commission. In attempting to introduce environmentally sound management policies, the question which arises is how will this statutory authority respond? There is no clear cut set of policy statements to which the Council can turn. The best documented information issued by that office, concerns policy guidelines for the subdivision of rural land. In this statement by the Commissioner for Town and Country Planning⁷ there are a number of points which are clearly in sympathy with sound environmental management. Furthermore, planning schemes drawn up by the Commission, such as the one recently developed for the neighbouring municipality of Tasman, give high priority to environmental and aesthetic considerations. Thus, although the Commission does not specifically act as a policy planning instrument for Government at Local government level and although its primary planning function is that of accommodating current trends, it does nevertheless, encourage and make it possible for councils to give due weight to environmental matters in planning. Thus, there seems little doubt that, should council adopt a sound environmental policy for the management of its coastal area, then it will receive strong support and endorsement from the Town and Country Planning Commission.

4.2 THE MAJOR LAND MANAGERS

4.2.1 The Department of Lands

Second only to the Forestry Commission in terms of the amount of land administered in the Study Area, the Lands Department and its policy is crucial to the proper management of the coastal zone. The Department administers foreshore reserves which form the margins of much of the Sorell Coastal Area as well as other crown land in the

Study Area. Like the Forestry Commission, the Lands Department is becoming increasingly aware of its responsibilities in the fields of conservation, preservation and recreation. But the Department of Lands has much stronger historical ties with the management of land for aesthetic and recreational purposes. In 1915 the Scenery Preservation Office and the associated Scenery Preservation Board were established as satellite bodies within the administrative framework of the Lands and Surveys Department⁸ and these organisations together with the Animal and Birds Protection Board were the sole conservation-orientated public authorities in the State until the establishment of the National Parks and Wildlife Service in 1970. With such a background it is not surprising that the Lands Department still sees itself as an institution orientated towards the conservation and preservation of land for recreational and aesthetic activities as well as economic purposes.

Early conservation work by the department was primarily concerned with sand dune stabilisation and Wettenhall⁹ noted the existence of the Sand Dune Reclamation Unit as part of the infra-structure in 1967. Certainly sand dune reclamation work has been a prime field activity of the department over recent years and particularly successful operations have been carried out in the northeast of the State. More recently, however, the Lands Department has moved into the establishment of 'regional parks'. For the year 1976-77, the Department reported:¹⁰

"The Lands Department is continuing to develop a system of regional parks throughout the State. Regional parks will generally be close to cities and towns and will be developed and managed in close collaboration with local councils to provide a wide range of recreational opportunities within easy reach of urban dwellers and to protect landscape and environmental values without necessarily preventing all exploitive use of the lands concerned."

The report goes on to say:

"It is proposed that some areas will be zoned for horse riding, trailbikes or for target shooting."

Other areas will be managed as quiet retreats or natural areas."

Of particular importance with respect to the Sorell coastline and some of the recommendations made in Chapters 3 and 5, is the statement:

"The protection of skylines and provisions for long distance walks are important matters and the Department is also concerned for the conservation of remnants of original biological communities, natural features, historic sites and the environment of the urban fringe in general."

Such a commitment from a public authority should provide considerable consolation to a financially struggling municipal authority attempting to confront difficult environmental issues within its boundaries. There is, however, a need for these trends to be viewed in perspective. It is important to understand that this move towards environmental awareness has gained impetus only recently and that by far the main business of the Lands Department is still orientated towards the exploitive and developmental use of land. The reservation of areas of land for regional parks specifically does not exclude exploitive uses (see above) and, furthermore, the revocation of such reserves does not require parliamentary approval¹¹ such as is needed for the revocation of State Reserves administered by the National Parks and Wildlife Service.¹²

The Lands Department can be of assistance to local councils in providing expertise not otherwise available. The Department acknowledges that it can play an important role as a planning and management authority. In the annual report for the year 1977-78¹³ the role of the Land Management Division as a planning and advisory service is explained and it is clear that given sufficient financial backing, the Division should be able to offer considerable support to councils concerned with the continued well-being of coastal and other resources.

Access is another aspect of crown land management that has occupied some of the Lands Department's thinking, and access tracks and roads

have been provided to a number of different foreshore reserves throughout the State.¹⁴ For example, minor track and road work was carried out in the neighbouring municipality of Clarence to provide access to the South Arm Regional Park.¹⁵ The construction of access tracks as distinct from roads also represents an interesting trend. It is of course a recognition that there is a need for motor vehicles to be specifically excluded from some areas and clearly the Lands Department is revealing a sensitivity to modern-day community trends in helping to provide such areas. Within the Sorell Coastal Area, access has come to be almost synonymous with road and shack development and care will be needed if future access routes to now unspoilt areas are not to be treated in the same way. In any event, it is clear that the general policy trends and operations of the Lands Department as one of the major local managers within the study area do show a high degree of compatibility with appropriate environmental resource protective measures and as such the Department should provide support and assistance to the Council in its attempt to implement such a policy.

4.2.2 The Forestry Commission

The Forestry Commission administers quite substantial segments of the Study Area. On Forestier Peninsula Commission land abuts the shoreline in both Areas 1 and 4. Between Eaglehawk Neck and Humber Bluff on eastern Forestier Peninsula, the State Forest extends to high water mark even though much of that land has a steeply cliffed margin. Further to the north in Area 3 another block of Forestry Commission land occurs in the vicinity of Hellfire Bluff.

Early government foresters, before the establishment of the Forestry Commission, were called 'conservators of forests'. Although this function is included in the Forestry Commission's brief, since the advent of woodchipping, which began in 1972, the Commission has leaned heavily towards the commercial side of forest management. Of course much of the Commission's time and resources are devoted to forest conservation, protection and regeneration, but once again the

commercial species are the prime concern. This approach is not always in the best interests of native forests particularly if they consist of non-commercial species and it does allow for the development of major conflicts related to appropriate land use questions. Nevertheless, while commercial production is undoubtedly the major concern of the Commission, there are pleasing signs emerging of a movement towards the multiple use of forest resources. Forest recreational reserves have existed in Tasmania for a long period of time and, although not having the permanency of reserves administered by the National Parks and Wildlife Service,¹⁶ their existence does indicate an awareness within the Commission of other uses to which forests can be put. At the present time the Commission is working on the development of management plans to cover all forest reserves over which it has jurisdiction.¹⁷

There is no documented policy statement which reflects this new trend although it is quite clear that such a trend does exist. In the neighbouring municipality of Tasman, along the coastline between Eaglehawk Neck and Fortescue Bay, the Commission has declared an area of 1,470 ha. as forest reserve in order to maintain the scenic amenity of the coastal area in that region.¹⁸ Such a concession is a clear indication that the Commission is prepared, in some degree at least, to forsake some commercial gains in the interest of alternate land uses. This is of course but one of many such concessions that the Commission has made throughout the State, but it is of particular importance to the Sorell Municipality because the eastern shoreline of Tasman Peninsula forms a continuum with the eastern shoreline of Forestier Peninsula and it seems likely that the Sorell Council may wish to negotiate a similar agreement with the Commission concerning its operations on Forestier Peninsula. In any event the important point is that the Council, in attempting to implement an environmental policy for the protection of its coastal zone, should at least be guaranteed a sympathetic hearing from the Forestry Commission given the present policy directions which seem to be emerging. Indeed the Commission reported in 1979¹⁹ that one of its, "*other important functions*" included

*"The management of State Forests for recreation
and wildlife conservation."*

In balance it has to be acknowledged, however, that the Forestry Commission is primarily an exploitive authority. Alternate use of forest resources represents a minor activity and forest reserves do not require acts of parliament for their creation or revocation²⁰ and as such they must be seen as somewhat transient in nature.

4.3 FUTURE INVOLVEMENT OF PUBLIC AUTHORITIES

In addition to those organisations which are at present concerned with land management in the Study Area, there are two further authorities that are likely to be involved in the future. These two organisations are The National Parks and Wildlife Service and The Australian Heritage Commission. The involvement of each of these organisations in the administration of parts of the Sorell Coastal Area would be appropriate and would be of great value to the Council.

4.3.1 The National Parks and Wildlife Service

The National Parks and Wildlife Service was created in 1970 under the National Parks and Wildlife Act which repealed the former Animals and Birds Protection Act of 1928 and the Scenery Preservation Act of 1915.²¹ Thus the management and control of parks, reserves, fauna and flora were placed in the hands of a single authority. The Service is under the control of a Director appointed by the Governor and is accountable to the Minister for National Parks and Wildlife. The National Parks and Wildlife Service has been an expanding government department since its inception and its activities have been supported by continuing increased public patronage of areas under its control.²²

At present the National Parks and Wildlife Service play no direct part in the management of the Sorell coastal area its interest being



Plate 4.1 Controlled recreational use of coastal lands is an important aspect of land management. Here Bream Creek provides a tranquil retreat in the dune system of The Long Spit.



Plate 4.2 Coastal land of outstanding beauty is virtually irreplaceable but it may be of only margin value as farming land.

limited to the Tasman monument at Dunalley and the Tesselated Pavement area at Eaglehawk Neck.²³ However, as is pointed out in Chapter 3, the 'Tasman Historic Parkland' area warrants the greatest consideration and care and there is no doubt that the very existence of this area within the coastal zone is in itself a strong case for the formation of a National Park. It seems likely, therefore, that the National Parks and Wildlife Service will have a role to play in the management of the study area and it is proper that it should. There seems no doubt that thus far the area of the 'Tasman Historic Parkland' has simply been overlooked but such an oversight will not continue indefinitely, indeed the Council should actively promote the formation of such a park by making representation to the Service directly. Certainly the Service does co-operate with local councils wishing to set aside reserve lands.²⁴

Of particular interest to the Council with respect to the management of reserve lands by the Service, is the fact that there is a flexibility that can be incorporated in the administration and management procedures. For example, the management of wildlife reserves and sanctuaries by the National Parks and Wildlife Service does not automatically imply acquisition of land. Many reserves and sanctuaries are operated under joint management arrangements. In 1978 the Service reported²⁵ that of the 68 wildlife sanctuaries in the State, only 25 were solely under Service management. In the same report it was indicated that the Service was involved in joint management arrangements with the Forestry Commission, The Scout Association, The Hydro-Electric Commission, Local councils, The Tasmanian Museum, the Australian Government and, significantly, private land owners. Of course such arrangements with private land owners also may be of considerable benefit to the individuals concerned because they offer relief from the relatively high economic costs of maintaining and preserving tracts of land which are often uneconomic in terms of farming operations. Indeed it is just such economic restraints that prevent most land owners from setting aside attractive, biologically or historically significant tracts of their land for non-development. Another factor of course is the lack of expertise available, even if

private reserve maintenance is economically feasible, and this is another gap that joint management with the National Parks and Wildlife Service can fill. Whatever arrangements are ultimately made there seems little doubt that the National Parks and Wildlife Service does have a significant role to play within the Sorell Coastal Area and that such a role would be of great benefit to the Council and the community as a whole.

4.3.2 The Australian Heritage Commission & The National Estate

The Australian Heritage Commission is a statutory authority established under the Australian Heritage Commission Act, 1975, as the Federal Governments policy advisory and administrative body responsible for the National Estate.²⁶ In the 1973-74 budget the Australian Government made available the sum of \$2,330,000 for the care, preservation and restoration of the National Estate.²⁷ This was the first allocation of money to the National Estate Programme, an enterprise which has set the scene for greatly improved care, restoration and preservation of components of the Australian cultural and natural environment. The establishment of this programme and its maintenance to date is an indication of the Australian Government's commitment to this country's national heritage. By the end of the financial year 77/78 some \$20,280,000 dollars had been allocated by the Australian Government to the National Estate Programme since its inception and this money involved 916 separate projects.²⁸ However, doubt has been expressed that continued recent reductions in funding may render the programme impotent.²⁹

As far as local government is concerned, if it is to be recipient to such funds, it must first seek to have places or items of cultural or environmental significance entered on the National Estate Register. Items or places of public or private ownership are all eligible for inclusion on the Register and such a registration is in no way restrictive of ownership. However, once a particular place has been deemed to be a part of our cultural heritage, it then becomes potentially worthy of financial contributions through the Australian

Heritage Commission. It is important to understand that the National Estate Programme is not restricted to cultural furniture, bricks and mortar. The Heritage doctrine additionally concerns itself with forests, coastlines, historic sites, rare ecosystems and the like.³⁰ Indeed in the 76-77 Annual Report³¹ the Heritage Commission specifically drew attention to the need for special protection of historic landscapes,

"The Commission believes, that, in the future, attempts to conserve historic areas should probably command an even higher priority than attempts to preserve individual buildings."

Much of the money provided by the Australian Government through the Heritage Commission has been for the provision of studies of significant areas or features but it is important to realise that funds have been provided for other purposes as well. For example, grants under the control of the Director of the National Estate from 1973 to 1977 included money for restoration, maintenance, consultative studies, construction works as well as acquisition costs.³² In view of the aesthetic, biological and historical aspects of the Sorell Coastal Area, it seems only appropriate that the Australian Heritage Commission and National Estate Programme should have a contribution to make. It is apparent from an examination of the National Estate Register that Sorell has not utilised this facility nearly enough. There are no natural historic sites recorded on the Register for the Sorell Municipality even though some other municipalities include many such contributions. Entries like the watering place of D'Entrecasteaux and Adventure Bay, because of its association with Cook, Bligh and Furneaux, fade into insignificance when compared to the 'Tasman Historic Parkland' area of Marion Bay. It is thus apparent that the Council should ask for & receive, as a custodian of significant parts of our cultural heritage, a much greater degree of participation and support from the Australian Heritage Commission.

4.4 SUMMARY

There is, it seems, considerable evidence available now that the community is sympathetic to land management based on appropriate environmental considerations. Furthermore, there are available at present within the Tasmanian legislative framework, a number of organisations which have expertise and approaches commensurate with a conservative outlook to land management. In addition the Australian Government through the National Estate Programme does offer support to local councils and other bodies concerned about such matters. This support may of course not come easily but the council is in a position to advance sound arguments to back its call for help and in the author's view there is no doubt that such help will be forthcoming.

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- 2 BOWMAN, M., 1979; *Australian Approaches to Environmental Management*; Environmental Law Reform Group, Hobart.
- 3 BATT, N., undated; Statement by the Minister for Economic Planning and Development in, *Developmental Guidelines and Incentives Tasmania*; Department of Planning and Development Tasmania, Hobart.
- 4 WILDE, P., 1977; Moves Towards Strategy Planning in, Wilde, D. and Chapman, R.J.K. (eds.) 1977, *Strategy Planning for Tasmania*, University of Tasmania, Hobart.
- 5 BOWMAN, M., 1979; *op. cit.*
- 6 SCOTT & FURPHY CONSULTING GROUP, no date; Municipality of Sorell Planning Scheme Area 2, Draft Scheme; Scott & Furphy Consulting Group, Hobart.
- 7 LYNEHAM, N., 1979; Statement of Policy Guidelines for the Subdivision of Land in Rural Areas; The Office of the Commissioner for Town and Country Planning, Hobart.
- 8 WETTENHALL, R.L., 1968; *A Guide to Tasmanian Government Administration*; Platypus Publications, Hobart.
- 9 *Ibid.*
- 10 DEPARTMENT OF LANDS, 1978; Report on the Activities of the Department of Lands for the Year 1976-78; Tasmanian Government Printer, Hobart.

- 11 Information provided by officers of the Lands Department,
Hobart.
- 12 MILLINGTON, R.J., JONES, R., BROWN, D. & VERNON, B., 1979;
Huon Pine - Endangered?; Board of Environmental Studies,
University of Tasmania, Hobart.
- 13 DEPARTMENT OF LANDS, 1979; Report on the Activities of the
Department of Lands for the Year 1977-78; Tasmanian
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- 14 Personal communication with the Deputy Surveyor General,
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- 15 DEPARTMENT OF LANDS, 1979; *op. cit.*
- 16 MILLINGTON, R., JONES, R., BROWN, D. & VERNON, B., 1979;
op. cit.
- 17 Personal communication with D. Sheppard, forester with the
Public Relations Branch of the Forestry Commission.
- 18 *Ibid.*
- 19 Tasmanian Government, 1979; *The Tasmanian Year Book 1979*;
Tasmanian Government Printer, Hobart.
- 20 MILLINGTON, R.J., JONES, R., BROWN, D. & VERNON, B., 1979;
op. cit.
- 21 Anonymous, 1975; Pamphlet - National Parks & Wildlife
Service - Its Function and Structure; issued by the
National Parks & Wildlife Service.
- 22 NATIONAL PARKS & WILDLIFE SERVICE, 1978; Report for the
Year Ended 30th June 1977, Government Printer, Hobart.
- 23 Personal communication, G.R. Middleton, National Parks &
Wildlife Service.
- 24 *Ibid.*
- 25 NATIONAL PARKS & WILDLIFE SERVICE, 1978; *op. cit.*
- 26 KEAGE, P., 1979; *op. cit.*
- 27 BUTLER, L., undated; The Voice in the Wilderness -
unpublished manuscript from the Director of the National
Estate, Tasmania.
- 28 *Ibid.*
- 29 BOWMAN, M., 1979; *op. cit.*
- 30 BUTLER, L., undated; *op. cit.*
- 31 AUSTRALIAN HERITAGE COMMISSION, 1977; Annual Report of the
Australian Heritage Commission 1976-77, Australian
Government Publishing Service, Canberra.
- 32 NATIONAL PARKS & WILDLIFE SERVICE, 1978; Report for the
Year Ended 30th June 1977, Tasmanian Government Printer,
Hobart.

chapter 5

Reference has already been made in Chapter 1 to the essential requirements of an environmental policy. The point has been made that such a policy involves considerations of physical, biological and social factors and to this end relevant practical data concerning the study area has been gathered. However, these aspects alone do not automatically lead to an appropriate policy. Within the limitations of environmental social and political factors there are a number of options available to policy formulators, although only one such option will represent the optimum use of the resource. In the general and specific recommendations that follow, the author has attempted to develop a strategy plan which allows for optimum resource use while at the same time maintaining as far as possible the qualities of that resource, such that it remains a resource and is able to fulfill its functions in the natural system of which it is a part.

Such a strategy plan also implies an understanding of likely future development of the Sorell coastal area. Mention has already been made of the proximity of the Sorell coastal area to Hobart and this coupled with the increased cost of future transport is likely to deflect many East Coast travellers to this somewhat nearer focus. Furthermore, one of the present most popular tourist destinations in Tasmania,¹ Port Arthur, lures thousands of people through the area each year and the number continues to grow. What then is the likely scenario for the Sorell coastal area?

Radical changes in the current land use pattern are not proposed. The author would envisage that the Norfolk Bay coastline would remain an area devoted to a blend of recreational and rural pursuits within which appropriate controls would be applied to maintain the diversity essential for such a role. This coastline is also particularly significant from the point of view of its wider role as an integral part of the recreational complex of Tasman Peninsula. By far the most significant change proposed is the establishment of the natural historic parkland of northeastern Forestier Peninsula. Central to the establishment of this park would be the development of Dunalley as the focal point from which it is anticipated visitors would embark on excursions to Tasman Bay, Marion Narrows, Two Mile Beach and the like. The maintenance of the fishing village atmosphere and the further development of the historic potential of Dunalley are two factors which would further induce tourists to halt en route to Port Arthur.

Indeed it seems apparent that Dunalley is very much under-developed in this respect at the present time. With its unique canal, its strong historical associations and its nodal location it should, in the author's view, be the gateway to the two peninsulas. It is remarkable that Dunalley has not been developed as a charter fishing base like Eaglehawk Neck, despite the fact that the two ports service comparable areas. In fact it could be argued that Dunalley has an advantage over Eaglehawk Neck in so far as boats based at Dunalley have access to the more sheltered waters of Norfolk Bay when the oceanic waters of the East Coast are too rough. Like the charter fishing attributes, the historical connections of Dunalley are at present totally unexploited. When one considers that the historic and natural features of Maria Island lure people to drive to Triabunna and join vessels for day trips to that island it is, to say the least, surprising that no such service exists to places of such beauty and historical significance as those in the broad vicinity of Tasman Bay. However, the case is so strong that ultimately such developments are inevitable. It is perhaps a return to the past for in 1897 Dunalley was seen in just this light. Fig. 5.1 is a summary of the services

available to travellers at Dunalley as recorded on a tourist map of the day.

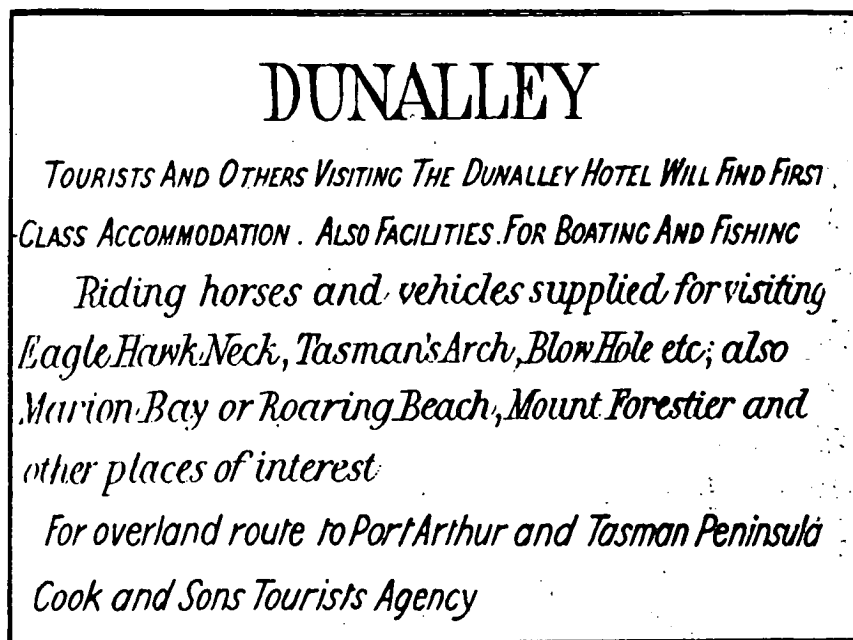


Fig. 5.1 Extract from a tourist map of Tasman and Forestier Peninsulas produced about 1894-97. Reproduced and Published by the Lands Department, Hobart, 1973.

The proposed buffer zones surrounding the 'Tasman Historic Parkland', including part of The Long Spit, would ensure that scenic amenity was maintained and within the zone strict controls on building, land clearing and tree felling would need to be exercised. South of the 'Tasman Historic Parkland' a bush walking track would provide a spectacular route to Eaglehawk Neck. Such a track would compliment the Waterfall Bay, Fortescue Bay and Cape Pillar tracks on the east coast of Tasman Peninsula and would certainly be comparable in beauty to these. In addition, the recent moves to reserve crown land at Cape Bernier by both the National Parks and Wildlife Service and the Lands Department² make the formation of a continuous east coast track even more feasible. Such a track, when linked to segments mentioned above, would stretch from Rheban in the Spring Bay municipality to Cape Pillar in the municipality of Tasman. Although at present crown land reserves are not continuous and there are problems of legal

access, which need to be negotiated, it seems almost inevitable that such a development will proceed.³ A track of this length, along some of the finest coastal scenery in the world, would be a great asset to South East Tasmania especially when seen in the light of its historical associations. An important feature of this walking track is its nodal nature with access points at a number of locations. This means that it can equally well serve both the long distance walkers and those who wish only to tackle certain segments of the walk at any one time. Thus, as well as catering for the energetic purist, such a facility would also allow family groups, children and others of lesser physical strength to participate. Although not wilderness in the strictest sense, the rugged east coast of Forestier Peninsula would enable many people to experience some qualities attributable to wilderness, in particular remoteness and unspoiled landscape. Such a track would be the closest 'wilderness trail' available to the Hobart population and its use would be assured.

Elsewhere in the study area the land use would be controlled to ensure that the earlier raised criteria were fulfilled according to the best coastal land use practices. These are embodied in the recommendations below. These recommendations are of two types - general and specific. At the outset it was intended in this report to go beyond general statements of policy or policy guidelines. To this end, in addition to the general recommendations relating directly to the philosophical basis of the policy, there are the site specific recommendations. These are arranged according to the subdivisions of the study area outlined in Chapter 2 and it is intended that they should provide definitive tasks which the Council should implement as a first step beyond policy endorsement towards a detailed management plan.

5.1 GENERAL RECOMMENDATIONS

5.1.1 Diversity

1. Land use in the coastal zone shall be controlled so as to minimise reductions in diversity of function and use.

2. Wetland areas and saltmarshes will be preserved and no further reclamation of such areas will be tolerated.
3. Dune vegetation will be preserved and activities which may threaten such vegetation and hence dune stability, will be controlled or not allowed.
4. Burning of natural vegetation will be prevented or controlled so that a mosaic of burnt and unburnt land emerges. ^{Frequently} Repeated burning of particular areas will be prevented.
5. Pollution of the coastal margins will be prevented by carefully regulating residential density and controlling effluent from both industrial and residential sources.
6. The possibility of dry toilets, and other alternative systems will be investigated.
7. Measures will be taken to investigate the possibility of group use of shoreline facilities such as jetties, slipways, etc., to replace the rash of jetties and boatsheds that currently exist.
8. The natural vegetation will be preserved as far as it is possible and reasonable to do so and that where excessive or harsh clearing has occurred attempts will be made to re-establish natural vegetation on the foreshore reserve.

5.1.2 Appropriate Use and Non-depletive Principles

1. Land use within the coastal area shall be so controlled that only coastal dependent uses shall be tolerated.
2. Land use within the coastal zone will be so controlled as to preserve the physical and biological features.

3. Rural areas will not be allowed to degenerate through subdivision into uneconomic units.

4. The unique physical, biological and historical attributes of the Sorell coastal area shall be preserved for present and future generations.

5.1.3 Principles for Weekend Shack Control

1. Further shack or holiday home development shall be accommodated in already established settlements and further linear subdivision will not be allowed.

2. Buildings, car parks and roadways shall not be allowed on potentially mobile sands.

3. Expansion of present settlements shall be controlled in such a way as to minimise impact to the coastal margin. Particularly valley development should be preferred to ridge or headland development. To this end controls need to be exercised over the colour and type of building materials.

4. Shack development shall not be allowed to dominate natural coastal features.

5. Shack development shall not be allowed to exclude non-shack owners from enjoyment of the coastal area.

6. Some beaches and other areas of natural beauty shall be left completely free of shack development.

7. All future subdivision will have regard for the necessity of containment and the additional need to preserve the integrity of individual settlements.

5.1.4 Principles for Road and Access Control

1. Coastal roads shall be located inland from the coast and shall be so constructed and located as to be inconspicuous.
2. Access to coastal areas by road shall be by finger roads located at intervals along the coastal roads.
3. Road construction running near and parallel to the coastal margin shall be avoided.
4. Public access tracks and public reserve land shall be clearly sign posted.

5.2 SITE SPECIFIC RECOMMENDATIONS

5.1.2 Area 1 - The Norfolk Bay Coast

1. Between Primrose Point and Dunalley outside of the present contained centres, subdivision into small lots for the purpose of shack development should not be allowed.
2. The communities of Connellys Marsh, Susan Bay and Gypsy Bay should be prevented from spreading further along the coast and if further pressure for shack development is to be accommodated, it should be achieved by expansion inland.
3. Further land clearing on the Triassic Sediments inland from Dorman Point should be permitted only after advice from the Mines Department confirms it to be appropriate and that it fulfills the necessary requirements with respect to slope, soil cover, etc.
4. Dunalley Beach and Carlisle Beach should be maintained free of further holiday home development.

5. The coastline between Dunalley Beach and Murdunna should not be subjected to further subdivision and controls should be exercised over dwellings on blocks already in existence with respect to location of dwellings, construction materials and maintenance of vegetation cover so that the coastline is kept relatively free from the visual effects of shack development.
6. Murdunna itself should accommodate pressure for further development according to its town plan (not yet proclaimed).
7. Development of Murdunna should extend inland, but have due regard for the catchment of Sounds Rivulet and the potential hazards of excessive septic tank effluent.
8. Further linear subdivision on the southern shore of King George Sound should be avoided and the beach at Duck Creek should be left free of shacks.
9. Measures should be taken to re-establish tree cover in locations between Murdunna and Sommers Bay where excessive burning and clearing has radically altered the plant community.
10. The Sommers Bay community and the Flinders Bay community should be contained and maintained as discrete units by accommodating further pressure for development inland.
11. The vegetation on the slope immediately behind the beach at Sommers Bay should be preserved.
12. The land between Flinders Bay and Eaglehawk Bay should be maintained in its natural state.
13. Further linear subdivision at Eaglehawk Bay should be avoided.
14. The co-operation of the Forestry Commission should be sought to ensure that a belt of tree cover along this coast is maintained to minimise the effects of forestry operations inland on visual amenity.

15. Throughout the entire length of Area 1 the potential for the use of alternative waste disposal systems should be investigated to avoid jeopardising the recreational value of the region.

5.2.2 Area 2 - Blackman Bay

1. Dunalley should be allowed to accommodate pressures for the further subdivision of land within the confines of the town plan already in existence.

2. Future development of the Dunalley township should be supervised so as to preserve and enhance the attractive qualities, visual amenity and historic significance of the area generally.

3. The development of Dunalley should be so controlled that it may act as a centre for access to the parklands and the historic sites in the vicinity of Tasman Bay.

4. Encouragement and financial assistance should be offered to entrepreneurs to establish ^{and/or maintain} small museums, historic buildings and other attractive informative centres within the confines of the town, perhaps adjacent to the canal.

5. The operation of boat trips from Dunalley to Tasman Bay and Two Mile Beach should be encouraged and if necessary be given some financial assistance at least in the early stages.

6. There should be no further shack development between the community of Boomer Bay and Dunalley.

7. The land between Bay Road and the shoreline should not be used for further housing development.

8. Care should be taken to preserve the wetlands and saltmarshes of Little Boomer, Big Boomer and those west of The Long Spit.

Grazing of such lands should be avoided and reclamation of any kind should not be permitted.

9. Agricultural activity, vegetation damage, firing and building should not be allowed on The Long Spit.

10. No further shack building should be permitted at Little Chinaman Bay.

11. Oyster farming leases in the shallows immediately offshore should be so controlled that they do not become a dominant visual influence and also so that they do not adversely affect water movements within the bay.

12. The southern and southwestern margins of Blackman Bay should be maintained as rural land free from further residential or holiday home development.

5.2.3 Area 3 - Marion Bay and Area 4 - East Forestier Peninsula

1. House and other development at Eaglehawk Neck should be controlled so as to preserve maximum vegetation cover particularly in elevated areas.

2. The land of the study area between Eaglehawk Neck and Lagoon Bay should be preserved, by arrangement with the Forestry Commission, in its natural state as 'the site of a future wilderness trail'.

3. At the northeastern end of Forestier Peninsula the 'Tasman Historic Parkland' should be set aside including Cape Frederick Hendrick and Little Chinaman Bay near Marion Narrows.

4. Within the historic park, special care will be needed to ensure the well-being of the dune system of Two Mile Beach and the wetlands of Swan Salt Lagoon.

5. Around the park a buffer zone of suitable width should be established within which rigid controls would need to be applied with respect of land clearing, vehicular access, tree felling and the like.
6. The dunes of The Long Spit in Area 2 shall be part of this buffer zone and will be protected by maintenance of vegetation cover.
7. The dunes of the northern end of The Long Spit in Area 4 will be protected by maintenance of the vegetation cover and dune stability will be further enhanced by a programme of tree planting to replace those which have been lost.
8. Road access to the coastline to the north of Area 4 should be limited.
9. The Oyster Bay pines in the vicinity of Pine Creek should be preserved by a complete prohibition on clearing, cutting and firing of the vegetation.
10. The skyline of Hellfire Bluff and Cape Bernier must be preserved and steps must be taken to ensure that the vegetation of the hinterland remains unspoiled and does not detract from the visual amenity of the area.
11. The rural landscape of Bream Creek should not be allowed to deteriorate through inappropriate or excessive subdivision of land. In particular further roadside subdivision along Marion Bay Road should be avoided and tree planting should be encouraged to obscure new sheds and farm buildings constructed in the area.
12. Further development within the Bream Creek area should be located such that impairment of the visual amenity is minimised.
13. The steep slopes of East Forestier Peninsula should not be fired for they depend heavily on vegetation cover for their stability.

14. The high ridges of Hellfire Bluff, Humber Bluff, High Yellow Bluff, Cape Surville and Mt. Macgregor all should be protected from further firing in order to prevent excessive loss of soil and nutrients promoted by excessive firing.

5.3 IMPLEMENTATION OF A COASTAL POLICY

The adoption of a policy is but the first step towards achieving sound management of the coastal domain. The second and perhaps more difficult step is implementation. Indeed much of the public disenchantment with the world of politics is a direct result of government failing to fulfill their stated intentions, that is, failing to implement their policies. The reasons for this quite common dilemma are complex and varied but one underlying component is that the policy statement may be quite removed from the practicalities of the real situation to which the policy applied. Many social reforms based on the highest and most commendable human ideals have floundered at the practical level because of social, logistical or economic factors overlooked by the formulators. It is with just such difficulties in mind that the author wishes to discuss some of the matters related to implementation.

The control measures that have been suggested for the continued well-being of the Sorell coastal margin are neither radical or unusual. Each of them could readily be incorporated into a planning scheme such as that currently being prepared by Scott and Furphy for Area 2 of the Sorell Municipality.⁴ This plan at present at draft stage will require adjustments and changes before final approval is given by the Commissioner for Town and Country Planning. There seems, therefore, no reason at all why the zoning scheme outlined in that plan cannot be adopted to incorporate the essential requirements necessary for the proper care of the coastal zone. Such an arrangement would simplify the legal requirements and enable the Council to put coastal planning on a firm footing as opposed to merely paying lip service to such an initiative. However, even the backing of an

approved planning scheme and the knowledge that controls and regulations can be enforced by recourse to law is no guarantee that circumstances will change without proper supervision. Already the Council administers the municipality with the backing of quite extensive legislation but it is no secret that especially in the shack areas, many of the rules and regulations are blatantly abused. Indeed rules and regulations and legal support are totally ineffective without proper policing. How then should such policing be achieved?

Foremost in the minds of councillors and administrative staff, will be the financial considerations. The financial difficulties under which local governments must operate have already been alluded to and there seems little likelihood that these circumstances will improve markedly in the future. The Sorell Municipality is one of a large number of minor local government districts throughout Tasmania. The Council has jurisdiction over a fairly large area with a dispersed and sparse population. Thus the rate base is limited while the spread of responsibility and financial commitment is quite extensive. This contrasts markedly with the councils which preside over the population centres. For example, Table 5.1 compares three local government areas - Hobart, Clarence and Sorell. The lower population to area ratio for Sorell is indicative of the dilemma.

TABLE 5.1

Population and Area Figures for the Neighbouring
Municipalities of Sorell, Clarence and Hobart.

	Sorell	Clarence	Hobart
Population	4,350	42,360	50,570
Area of Municipality	75,400 hectares	28,600 hectares	7,580 hectares

Source - Division of Municipal Planning, Hobart.

The disadvantageous situation in which the less highly populated municipality finds itself, is further illustrated by a comparison of

the administrative arrangements. For example, neighbouring Clarence Council has on its staff two planners and six engineers, whereas Sorell is unable to employ permanently any such professionals and has to rely solely on outside consultants for such work. Although possibly cheaper in terms of annual expenditure, the use of consultant planners and engineers is an expensive administrative procedure and it makes integration over a period of time difficult. Furthermore, the use of outside consultants rarely provides any 'spin-off' in the form of solutions to the day to day problems that arise during the running of the municipality. A permanently employed planner on the other hand can keep an eye on a large number of separate items as they arise while still ensuring the proper implementation of major plans, policies, regulations, etc.

TABLE 5.2

Permanently Employed Professionals Concerned with
Land Use Planning, Employed by the Neighboring
Councils of Sorell, Clarence and Hobart.

	Sorell	Clarence	Hobart
(a) Permanently Employed Planners	-	2	3
Engineers	-	6	11
Building Inspectors and Health Inspectors	1	8	9

(a) refers only to personnel on permanent payroll -
excludes consultants.

Source - Individual Council Office of each municipality.

Thus the Sorell Council finds itself already in a situation of insufficient finance and with inadequate administrative experts to properly cope with present circumstances. On top of all this, the formation of a Coastal Committee implies that the Council is prepared to further stretch its limited resources into another, previously neglected, area of planning. One is, therefore, doubt-

ful whether such an exercise is at all sensible unless additional aid is forthcoming from State or Federal governments. In the past local governments have tended to lose administrative control of those aspects of municipal management for which their limited finances have been found to be inadequate. A good example of this in southern Tasmania has been bulk water supply which has been placed under the control of the Metropolitan Water Board. It seems likely that a careful appraisal of the problems of environmental coastal management in Tasmania may lead the State government to act in a similar manner. Other states have also encountered this dilemma, and in South Australia for example, a separate autonomous Coastal Authority already exists.⁵ This coastal authority receives money directly from government and has quite large annual budgets. One of the major advantages of such an authority over and above its financial attributes, is that it allows integrated Coastal planning to be achieved at least to state level. It is likely that the Tasmanian Government too will be brought under increasing pressure in the future to form and finance a State Coastal Authority and should this happen much of the burden now being carried by the Council will be removed while coastal planning and management will receive a much needed financial lift as well as improved expertise. In the meantime, however, Council has to shoulder the responsibility on its own although it does seem that sound arguments could be advanced to both State and Federal Governments for specific purpose grants to cover at least in part, the finance necessary for such a task. In the absence of such finance being made available, it is almost inevitable that Council could do no more than adopt an appropriate coastal policy in principle and have little chance of taking positive steps towards its fulfilment.

The major problem with the implementation of a coastal policy is that it requires virtually continuous reconnaissance by a person with training in environmental studies, land use planning and/or landscape design. Such people are not easy to find and a good land use planner guided by the environmental policy and able to call on experts from other institutions may be a suitable compromise. Such

a person is, however, not an automatic guarantee of success because land use planning for coastal areas requires a sensitivity and an appreciation of aesthetic factors, qualities not guaranteed by qualifications alone. Decisions may have to be made which rest on criteria not easily discernable and a logic somewhat obscure. Nevertheless, a competent landscape designer, or an enlightened planner, drawing on all the expertise the community at large has to offer, is an asset which would be of great benefit to the Council generally and particularly in the field of coastal management.

Another avenue worthy of investigation is the possibility of sharing such a professional with neighbouring municipalities. For example, Tasman Council, with an even smaller rate base than Sorell, is also in the throes of coming to grips with the problems of implementing plans aimed at ensuring the long term well-being of the entire Tasman Peninsula and there seems little doubt that the services of such a professional supervisor would be desired by this Council as well. Such an arrangement would substantially reduce the financial burden whilst at the same time almost continuous supervision and reconnaissance would be available. Perhaps even a three way sharing might be feasible, although it would seem that this would involve spreading the reconnaissance very thinly indeed.

In the absence of such an individual, the decision making concerned with the day to day implementation of a coastal management policy must rest on the coastal committee, the Council and the administrative officers at present employed by the Council, namely the Council clerks and the building inspector. The short comings of such a system are obvious and it is really only conceivable as a solution if expertise is continually drawn from other institutions, colleges and government departments. The main weakness is likely to stem from a lack of continuity and consistency of approach. To some extent it would be possible to offset this difficulty by training one of the Council officers, presently employed in the field of environmental land use planning. Although not offering such courses at present, it is quite conceivable that upon request the Community Colleges



Plate 5.1 Controls developed for environmental protection must be applied on both private and public lands. The natural qualities of this area were devastated before subdivision and sale.



Plate 5.2 Control of vehicular access may sometimes be needed to protect particularly sensitive areas.

might be able to develop a unit appropriate to the Council's needs.

Another aspect of implementation is related to the pressures to which Council may be subjected by landowners and entrepreneurs interested in the sale and subdivision of land. In an unzoned municipality all land is potentially subdivisible and the value of that land will be determined by that potential, assuming there is a market for small blocks. The strength of the market forces will largely determine the value of such land, but, as a general rule, its value as potential subdivision will far exceed its value as agricultural land. Thus land in an unzoned municipality may have at least two quite different values depending on the use to which it is put. This dual worth lies at the heart of the problem and if Council is to administer its coastal zone appropriately, measures need to be taken to alleviate the community pressure for continually more and more subdivision. Zoning may be seen as but one component of such a programme and even this measure may be rendered quite ineffective if potential developers see the zoning plan as merely a transient scheme easily able to be changed and adjusted. Under such circumstances subdividers may simply purchase land in say a 'rural zone' and then apply pressure in various ways to make the Council rezone the land into a subdividable category. Thus a first requirement of a scheme in which zones are defined is that the community should see the zones as final decisions and they should understand that changes in the zones can only be achieved with great difficulty and in extraordinary circumstances.

A further corollary of such a zoning scheme is that the ratable value of the land must be determined not by open market forces, which may be related to the zones imposed by the Council, but by the land use appropriate to that zone. In other words the land of a farm adjacent to a holiday subdivision must be valued purely in terms of its agricultural potential and must not be influenced by the value of the subdivisional land nearby across the zone boundary. In these circumstances the farmer is able to farm his land without outside pressures elevating the cost of the land, and hence elevating his rates and taxes, to a level where the agricultural use of the land

becomes uneconomic. Thus the country land owner is not forced off his land by ever increasing rate demands and nor is there an economic incentive to reduce the viability of his farm by selling off portions of his farm at grossly elevated prices. Of course, the lower ratable value of the rural land means less income for the Council and there is a need to ensure that in the rare event of a change in the zoning plan, excessive windfall profits are not made by land owners because the potential for such profits will ultimately manifest itself in the form of further pressure on Council for further zoning changes. To counteract such a tendency some form of disincentive is required. Thus perhaps a system might be introduced whereby the owner of land which has been rezoned from, say 'rural' to 'subdivisional' land, may be asked to back pay the rate difference between these two categories for five or ten years or some other appropriate period before approval for subdivision is given. This would mean that the rates payable would be appropriate to the land use envisaged by the owner and as indicated by his actions. Furthermore, it would ensure that the Council did not forego income by giving a property a low rate status only to find that, after zoning changes, the land owner had in mind all the time, the lands potential for subdivision. In other words it is an assurance of good faith and not merely a manipulative guise. This system is suggested merely as a guide to the type of measure which Council could adopt to reduce community pressure for subdivision. It is not the only system and there are many variants on the same theme which have been suggested.

One comparable but rather more radical alternative was proposed by the Else-Mitchell Commission of Enquiry into Land Tenures.⁶ Here two values were proposed for land, the use value and the development value. The development value was the extra value over and above the use value which the Commission of Enquiry suggested should be given over to public ownership and be a commodity which potential subdividers could buy from government subject to approval being given. The details of this scheme are outlined in other writings,⁷ and there is little doubt that it has considerable merit but it involves wide departures from current practice and it is doubtful that such a proposal would

receive the necessary political backing for appropriate legislation to be passed. Thus as far as the Sorell Council is concerned, for the time being, at least, it has available to it only those measures which can be adopted under the present legislative framework. The central thrust of such measures must however, be directed towards the root cause of development pressure which is the high profit margins stemming from the bi-modal system of values which applies especially to land on the coastal area.

Elsewhere in this report attention has been drawn to the policies of other land administrators concerned with the coastal area. For a policy to be properly integrated over the entire area, there is a need for compatible programmes to be followed. The evolution of such compatibility requires a high degree of co-operation and consultation between interested parties. Furthermore, it is likely in the future that other government and semi-government departments will become more involved and the Council should be the hub of these interactions. Whether the Council retains its role as the focal point of decision making with respect to the administration of the coastal zone, will largely depend on its ability to maintain sound, long term, consistent policies in the face of local pressures applied by self interest groups.

5.4 CONCLUSION

At the beginning of this report the point was made that the development of a policy of land management based primarily on environmental considerations was a relatively new planning concept. It is apparent that a local council in attempting to adopt such a strategy is treading new ground. However, it is also apparent that the path is both practical and beneficial for the community as a whole. This policy does not forsake established social ideals and values, but rather an attempt has been made to develop a strategic plan which embodies notions which are both fair and responsible as well as being environmentally sound. In addition it is envisaged that such a plan

could be put into effect within the administrative framework that currently exists. It is expected that implementation of the policy would draw on the expertise and resources of other government authorities to a much greater extent than has hitherto been the case.

The care and conservation of the Sorell Coastal Area can be viewed as an investment in the future - a consolidation of the economic, cultural and aesthetic base upon which the long-term well-being of the municipality will ultimately depend. The Council, in essence, is confronted with two alternate paths: One alternative is to allow the trends of the recent past to continue. Inevitably this will lead to further decline and render the coastal margin both impotent and unattractive and of little ecological value. The other alternative, as presented in this report, seeks to halt and reverse this decline. It is an option available to the Council which will ensure that the resource is preserved and enhanced both for this generation and those that follow.

- 1 Information provided by the Tasmanian Government Tourist Bureau, Hobart.
- 2 Two proposals have been put before the Director General of Lands concerning 212 ha. of crown land on Cape Bernier. One proposal from the National Parks and Wildlife Service suggests the area should be a State Reserve under service control and the other from the Lands Department suggests it would be suitable as a Coastal Reserve under Lands Department management. Both these proposals were discussed by the Sorell Council Coastal Planning Committee on the 8th May, 1980.
- 3 In its submission concerning the above proposal, the Lands Department did indicate that its long term objective for the area would be acquisition of a continuous strip of coastal reserve land.
- 4 Planning Division Scott and Furphy Consulting Group, undated; *Sorell Planning Scheme Area 2 Draft Scheme*, Scott & Furphy Consulting Group, Hobart.

- 5 BOWMAN, M., 1979; *Australian Approaches to Environmental*
6 *Management*; Environmental Law Reform Group, Hobart.
7 Commission of Enquiry into Land Tenures, 1973; First
Report : 1976, Final Report; Australian Government
Publishing Service, Canberra.
The Victorian Public Interest Research Group (P.I.R.G.),
1977; *A Coastal Retreat*, Published by the Victorian
Public Interest Research Group, Clayton (Victoria).

APPENDIX 1

THE WEEKEND SHACK - a discussion

by R.J. Millington

I should like briefly to address the problem of weekend shack development in coastal areas. I say problem because it has long been recognised here and elsewhere as such. However, the problem lies not so much with the shack or shack-owners but rather with the lack of positive coastal protective policies of government and local authorities. A Federal Government enquiry into coastal land-use in Australia had this to say about Tasmania's coastal shacks:¹

"In Tasmania largely unregulated shack development in the far north west, north east and east coasts has marred the landscape and has limited public access to the sea."

Similar circumstances exist elsewhere in Australia. The P.I.R.G. study of part of Victoria's coast line claimed,²

". . . the vast majority of private, public and commercial buildings in the coastal areas studied are blatantly incognizant of the environment in which they are situated. The result is that the unique character of the coast is submerged under a load of junk houses, screaming commercial facilities and pathetic public buildings."

Nor should we consider the weekend shack phenomenon to be a uniquely Australian experience. In England, for example, the problems of shack development arose decades ago. Rawnsley in 1966 wrote,³

"Ribbon housing development such as that on the coasts of Kent, Sussex, Lancashire, North Wales and elsewhere is likewise indefensible as are the miles of shack settlements and static caravan parks with their obtrusive colours and uncompromising shapes, inhabited for only a few weeks of the year but spoiling the landscape permanently."

It is striking how patterns of human behaviour lead to similar problems at points so widely separated on the globe. The comment above could easily be applied to areas of the Tasmanian coast. In the United States strong legislation has been enacted in a number of states to protect coastal areas.⁴ In 1970 the Council on Environmental Quality reported to Congress⁵ that over 68 percent of the total recreational property values along the coast and Great Lakes are accounted for by shorefront homes and that these occupy over 90 percent of the recreational lands on developed coasts.

What then are the circumstances that lead to this situation where-in our most beautiful and most attractive areas are so debased? The building regulations applicable in the Sorell Municipality are the same throughout the area.⁶ Yet the houses along the main streets of Sorell are in fact of far superior quality and comply in detail with the building regulations whilst in the shack areas of say Marion Bay or Sommers Bay Road a totally different standard seems to apply. Here there are a variety of buildings varying from residential sheds, fibro slums and other eyesores to just a few buildings of reasonable quality and design. This situation has arisen because in the words of one Council official to whom I spoke, the shacks were seen as being built 'out in the bush ... and it didn't seem to matter very much'. In other words there was a policy consciously or unconsciously adopted by the Council to do nothing. It is worth here recalling the point made by Dr. M.C. Coombs and later enunciated by Judith Wright⁷

"A decision to do nothing is just as positive a choice as to decide upon any other single course of action. The status quo itself involves a process of change."

In modern land use planning there is no place for the 'she'll-be-right-mate' approach. To be fair I should point out that I have been informed that the Council is now enforcing building regulations in shack areas to a much greater degree than before but it seems it will inevitably be a slow and somewhat painful process of correction and restoration. Indeed it seems likely that the corrective process in some areas would best be served by the removal of some of the more obtrusive buildings and perhaps acquisition of the land. This is particularly so where shack development has led to impairment of the visual catchments and beauty spots.

Most of the early attempts to restrain shack development have relied on the principle that shack construction should be contained within a prescribed built up area. Rawnsley in 1966 had this to say about the English situation,⁸

"So far we have applied the principle of first come, first served. If the resulting ruin is to be halted then henceforward we must apply instead Jeremy Bentham's axiom: 'The greatest good of the greatest number.' This means that outside built-up areas no one shall be allowed to put up a bungalow, shack or caravan. Then all may come, enjoy the coast, and go on their

way, leaving it unspoilt for others to follow after."

It is clear that such an approach would ultimately benefit all concerned. To begin with of course it would prevent further development of unspoiled areas. But the shack-owners themselves would benefit considerably. With new areas not being subdivided the prospective shack-owners of the future would tend to buy in, rather than build. This would elevate the prices of those houses already built and increase the assets of the owners. A general elevation in value would in turn generate increased revenue for the Council which ultimately would lead to better servicing of these areas by way of improved roads, drains and other facilities. Thus the operation would be self reinforcing and would work in exactly the opposite way to the present system whereby the Council continually operates in arrears. No sooner has it put roads to one area than another area further removed, has opened up. Once again Sommers Bay is just such a case. The road to the bay itself is quite good, a vast improvement on earlier times, but already the shack population has spread further afield, south towards Flinders Bay. This part of the road (if one could call it that) is very bad and will require further funds if it is to be properly constructed. A further benefit of generally increased shack value is that they are likely to be better cared for. After all who would invest \$30,000 or so in a shack in a beautiful area and then allow their investment to deteriorate? A Council restricting further extensive subdivision of land for holiday shacks would be embarking on a programme of consolidation of its assets. Such a programme would preserve the scenic amenity and integrity of the coastal domain but at the same time it would allow the quality of existing facilities and services to improve to benefit all concerned.

There are, however, two fundamental problems that can arise from such a consolidatory approach. The first is that there is a risk that the Council may be accused of adopting an 'elitist' policy with respect to shack ownership. It could be argued that the inevitable increase in the cost of seaside homes will force many owners or potential buyers out of the area and only those with sufficient financial assets will be able to retain or buy holiday homes. Sadly this is an inevitable consequence of a free market economy and applies to all purchasable commodities in limited supply. In balance it should however be recognised that there are already large segments of the population who cannot afford one home, let alone a second. For these people and for those who visit the region from outside, including those from interstate and overseas, the maintenance of considerable areas of coast free from holiday homes is important. Thus the limitation on the areas available for holiday home construction is a recognition of the fact that the coastline is a finite resource with a number of uses and functions and that the role of the Council is to ensure that it accommodates the widest possible spectrum of social groups and functions.

The second problem concerns the use of rates collected from non-permanent residents. If consolidation in the sense alluded to above is to be achieved then it is essential that revenue gained from holiday home owners be returned to the holiday home areas. This

often does not occur. It is not unusual to find rate producing land in one location funding operations in another area where political advantage is to be gained or expediency demands. In this respect it seems that non-permanent residents are often neglected, in comparison to permanent residents. Any programme designed to contain or consolidate weekend shack development in the Sorell coastal area will fail if funds raised from these areas are misdirected to other activities.

An important benefit of containment of villages and prevention of linear development is that the impact of ancilliary services and facilities is minimised. For example, a group of shacks close together and with a small area of combined access to the beach would adequately be serviced by one jetty, one slipping facility, one launching ramp, etc. This is far superior and in sharp contrast to the situation that exists along the southern shore of King George Sound where numerous jetties, often with barbed-wire gates to prevent others using them, generally detract from the scenery and hinder those people wishing to enjoy the beauty of the foreshore. Containment however, may lead to problems with respect to effluent disposal. When septic tank toilet systems are installed close together water logging of the soil may occur and pollution of drainage areas, streams and foreshores can result. For this reason the encouragement of closer settlement in villages needs to take into consideration the carrying capacity of the area and alternative means of effluent disposal or use. The prospect of installing sewage treatment plants in holiday villages is, in the author's view environmentally and financially unappealing especially in view of the intermittent use to which such areas are subjected. Moreover, sewerage systems in developing areas, sooner or later, are almost invariably subjected to over loading. The capacity of such systems is usually a compromise between projected population trends and available finances and as such only relatively short term planning can be contemplated which leads almost inevitably to problems as the population being serviced increases. Moreover, continuous, centralised sewerage systems are inappropriate for villages where the population varies dramatically throughout the year. The economics of maintaining and operating an expensive installation for perhaps nine months of the year, far below its designed capacity are unattractive and in any event it is quite unnecessary. It would seem more appropriate to look to alternative toilet systems. As pointed out in a study of part of the Victorian coastline⁹ there is wide range of self contained alternative toilets now available and most of these are cheaper than conventional septic tank installations. Furthermore, many of them are particularly suited to the intermittent use to which week-end shack toilets are subjected. A further advantage of such systems is that many of them use either minimal amounts of water or no water at all and the end product of treatment is an extremely small volume of solid ash or compost which is a useful garden fertiliser.

It is of course not any easy matter for Councils to reject applications for the subdivision and sale of land. The pressures applied may be substantial and the lure of further funds and a wider rate base to a financially struggling municipality may at first glance seem undeniable. Yet the net result will almost always be the opposite,

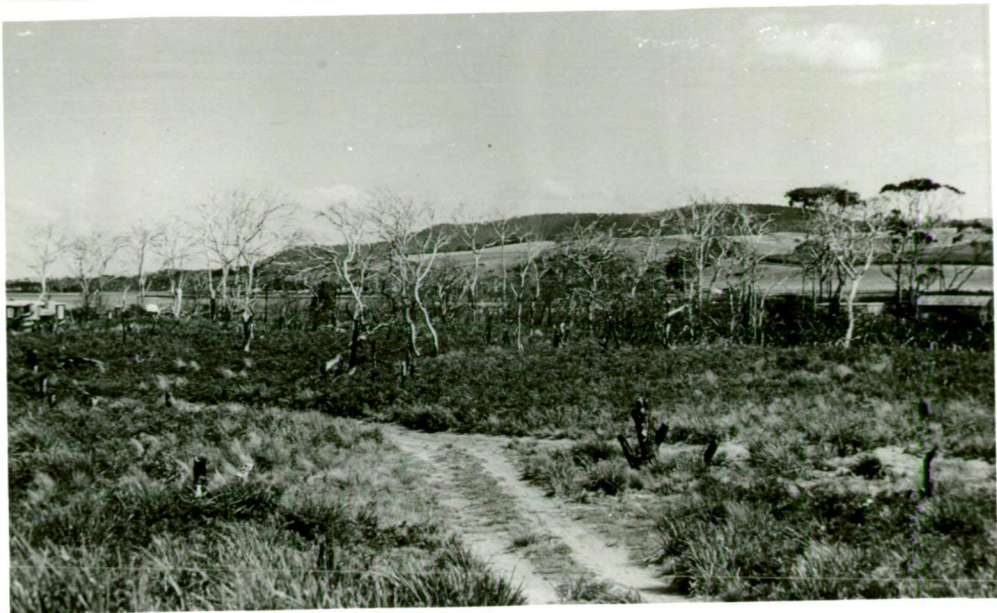


Plate 1.1 Excessive burning on The Long Spit has all but completely destroyed the tree canopy. This constitutes a threat to the stability of the sand deposit as well as depleting the visual amenity of the area.

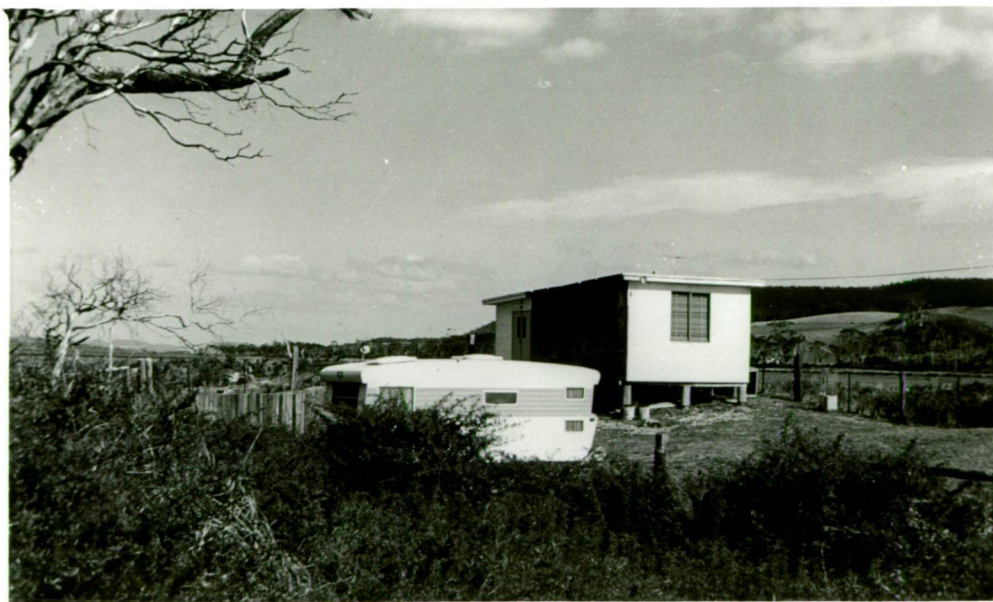


Plate 1.2 With walls of galvanised iron and fibro sheet, this shack, perched in an elevated position, detracts substantially from the natural beauty of Marion Bay.

with the new community placing greater demands on the municipality than the sum of its contributions. Usually this means that the established base of the municipality subsidises the new and growing acquisition and the total community is disadvantaged. This argument however, based as it is purely on a superficial consideration of monetary exchange alone does not in any way allow for other losses such as the depletion of the coastal resource, the reduction in the general attractiveness of the area and its accompanying diminution of income from outside the municipality as a whole. In other words even if one concerns oneself with short term gain alone it is doubtful whether holiday shack subdivision has merit, but when all aspects are considered the disadvantages of further subdivision far outweigh the limited gains that may be made. The importance of coastal land to the community as a whole and the intense development pressure to which it may be subjected has promoted a number of states in the U.S. to prepare special coastal protection acts. Such acts are already in force in New Jersey, California and several other states and there is also Federal protective legislation in the form of the Coastal Zone Management Act of 1972.¹⁰ In California 'nothing of any substance may be built on the coast between the three mile seaward limit and 1000 yards inland from high water, without express permission from the State Coastal Zone Conservation Commission'.¹¹

But in the Sorell municipality even if further linear coastal subdivision is halted immediately we are still left with a legacy of corrective and restorative work which needs to be done. How then does one repair the damage and visual impairment of once beautiful areas? To some extent we require a general attitudinal change in the community at large and although there are signs that people in Australia are now seeing their environment in a different and more concerned light, such a change will inevitably be slow in coming. Thus there is a need for council rules, regulations and policies to provide a directive. Fundamentally this directive with respect to shack areas can take one of two directions. In parts of England, Greece and Spain for example, where tree cover is often lacking, villages may be prominent features of the landscape. Built usually of rock or mortar and often of historic significance, these settlements have a solidity and permanence which is in keeping with their surroundings. In Australia, however, we rarely build in rock and the modern building materials of asbestos, weatherboard, aluminium and iron give our holiday villages a much more transient appearance, a disharmony with the natural environment. Furthermore, our villages are already much more spread out than say the tightly contained towns of the Greek Islands or the villages of coastal Cornwall. For this reason holiday villages in Australia should be directed away from the notion of prominence towards the idea of camouflage. Thus the directive should seek generally to encourage or enforce shacks to blend and harmonise with their surroundings. The Victorian P.I.R.G.¹² study suggests a number of initiatives that Councils could adopt. Among these are such things as rigid containment of built up areas and incentives to re-establish proper vegetation cover. The colours that houses are painted and the materials that are used could also be policed to reduce man's impact. For example the modern day log cabins are a great improvement on the weatherboard or fibro buildings of most areas. These cabins with



Plate 1.3 The pattern of holiday homes at Boomer Bay shows a degree of containment thus minimising impact and leaving the surrounding areas relatively unspoilt.



Plate 1.4 Connellys Marsh, originally a tightly contained group of shacks is now showing the signs of lateral spread along the coast.

with their exposed natural textures are somewhat similar to the split paling and shingle buildings popular in Tasmania in earlier days. Usually unpainted but sometimes oiled these buildings were able to blend unobtrusively with their bush surroundings and thereby minimise their effect on visual amenity. Road design and construction material is another way that impact may be lessened. Engineers characteristically design roads with speed and car qualities in mind but perhaps this is wrong. In areas of scenic value roads should be designed with the environment in mind. Dirt or marl roads winding around amongst trees and controlled by the natural features of the land should be preferred to straighter faster roads which are paved or gravelled. Such roads should not wander along the coastal margin as this detracts significantly from scenic amenity as well as encouraging further ribbon development. Where possible access roads should seek to approach the coast from the sides of gulleys and not progress from place to place around headlands. Seaside villages should also be contained where possible by valley walls. The P.I.R.G.¹³ study refers to villages as forming 'lakes' of settlement closely contained and camouflaged by vegetation and topography. Such an arrangement leaves most of the coastal domain free for the enjoyment of all, the headlands unmarred and vegetated and the coastline much as most holiday makers would wish to find it. This of course is reminiscent of the villages of Cornwall and Devon and much the same could be said of the Norwegian fiordlands. In Cornwall and Devon the local councils have vigorously refused to allow massive development along the coastal area and one is reminded of the small villages like Polperro where, except for servicing, even cars are not permitted . . . and yet these villages and others like them are the mecca for tourists visiting the U.K. from countries all over the world.

It is arguable that the ownership of a seaside house in Cornwall is restricted very much to the well-to-do and that this state of affairs is a direct result of the rigorous restrictions on further subdivision. This may be true but a further point needs to be made. The large population, the limited number of cottages available for purchase, and the relatively high prices, means that many holiday makers rent accommodation on the coast. An interesting aspect of this phenomenon is that in any one year a greater number of individuals are able to utilise the same seaside facility with only a marginal increase in pressure on the environment. Usually the rent scale changes with the seasonal demand so that quite a wide socio-economic group may be catered for, and most of the cottages available have both summer and winter tenants. Thus each seaside cottage is utilised for a greater part of the year than would be the case if greater numbers of cottages were available. It seems likely that as building costs rise in Australia a similar trend will emerge. Longer annual occupancy rates of dwellings in small villages also has a beneficial 'levelling-out' effect on local business operations making them more stable and less dependent on dramatic seasonal fluctuations in demand.

It may also be argued that the villages of South West England are sought more for their historic appeal rather than their beauty. This may be so but there are many other examples that we could choose

to illustrate the appeal of natural unspoilt coastal land. On the East coast of Tasmania the area of Coles Bay is an excellent case in point. Here the containment of the shacks and holiday homes has left the bulk of the coastal domain unblemished and because of this, despite the fact that the area is far removed from both Hobart and Launceston and the access road is a poor one, this place lures huge numbers of visitors each year. Of course much of the Coles Bay area is a National Park and as such management of the land has been made much easier. But the message is clear. Coastal lands, indeed perhaps one may argue all lands, need careful and sensitive management if their ruination is to be avoided. Where much of the land is in private hands there is a need for carefully formulated and rigid zoning to be applied and coupled with a system of rules and regulations which Council officers can enforce and which will reduce the impact of seaside villages and allow them to better harmonise with their surroundings.

Perhaps it is appropriate, in view of this predominantly critical discussion of the weekend shack dilemma, that the final point should concern itself with one of the more favourable aspects of the problem. The weekend shack or the coastal retreat does play an important role in Australian society. This nation is one of the most urbanised in the world and the weekly summer exodus to the seaside shack is one of the modes of escape. Such an activity may serve to nurture the family unit and helps to foster a much needed awareness of the natural environment and an appreciation of the Australian countryside. But each individual shack owner is powerless to halt the deterioration of the coast. He must rely on controls exercised by government to ensure that his seaside retreat does not degenerate into coastal suburbia. Furthermore, most people are unaware of the way that social, political and physical changes may influence their lives and their environment and there is therefore a requirement for wise and just controls to be exercised, controls administered by enlightened and far sighted people. There is a place for the weekend shack but its place is not everywhere. In the author's view linear shack development along the Sorell coastal margin is already excessive and is at present placing severe restrictions on other coastal users.

- ¹ Committee of Enquiry into the National Estate (R.M. Hope *et al.*) 1974; *Report of the National Estate*, Australian Government Publishing Service, Canberra.
- ² The Victorian Public Interest Research Group (P.I.R.G.), 1977; *A Coastal Retreat*, Published by Victorian Public Interest Research Group, Clayton (Victoria).
- ³ RAWNSLEY, C., 1966; *Enterprise Neptune, Town and Country Planning*, vol.34, No.2, pp.100-106.
- ⁴ Council on Environmental Quality, 1975; *The Sixth Annual Report on the Council on Environmental Quality*, United States Government Printing Office, Washington D.C..

- 5 Council on Environmental Quality, 1970; *The First Annual Report of the Council on Environmental Quality*, United States Government Printing Office, Washington D.C..
- 6 Information provided by the deputy council clerk, April 1979.
- 7 WRIGHT, J., 1975; Conservation: Choice or Compulsion - The Sir John Morris Memorial Lecture, Adult Education Board, Hobart.
- 8 RAWNSLEY, C., 1966; *op. cit.*
- 9 The Victorian Public Interest Research Group (P.I.R.G.), 1977; *op. cit.*
- 10 Council on Environmental Quality, 1975; *op. cit.*
- 11 *Ibid.*
- 12 The Victorian Public Interest Research Group (P.I.R.G.), 1977; *op. cit.*
- 13 *Ibid.*

APPENDIX 2

PROFILE AREA 1

by R.J. Millington

THE NORFOLK BAY MARGIN - PRIMROSE POINT TO EAGLEHAWK BAY

Throughout its length, Area 1 shows a high degree of uniformity. The geology and soil types change little from Primrose Point to Eaglehawk Bay and the problems of shack development and coastal alienation are common to all segments of this area. Similarly the native vegetation patterns are comparable across the entire area although the region northwest of the Denison Canal is largely rural whilst to the south it is predominantly bushland. Area 1 is delineated in Fig. 1.

2.1 GEOLOGY

The dominant rock type throughout Area 1 is dolerite. This igneous rock was intruded into Permian and Triassic sediments at intermediate depths below the surface during the Jurassic Period approximately 150 million years ago. Subsequently the dolerite has been exposed by erosion and/or faulting. Characteristically in this area the dolerite appears as a black to grey rock (often covered by coloured lichens) with a crystalline texture. The crystal size varies from quite coarse grained gabbroic material to fine grained, but in general it is medium grained and hence a true dolerite. Dolerite being resistant to erosion characteristically composes the headlands such as at Primrose Point, Dorman Point, Fulham Point, Wiggins Point, Dunbabbinn Point, Bellettes Point, Chronicle Point and Heather Point. Smooth Island and King George Island too are composed at least predominantly of dolerite as are the major high hills of the area. Jimmy's Hill and Mount Forestier just outside the defined limit of the study area are both dolerite. On the bluffs and exposed headlands the dolerite often forms precipitous banks or cliffs as at Primrose Point and Chronicle Point. A set of near-vertical joints

THE NORFOLK BAY COAST

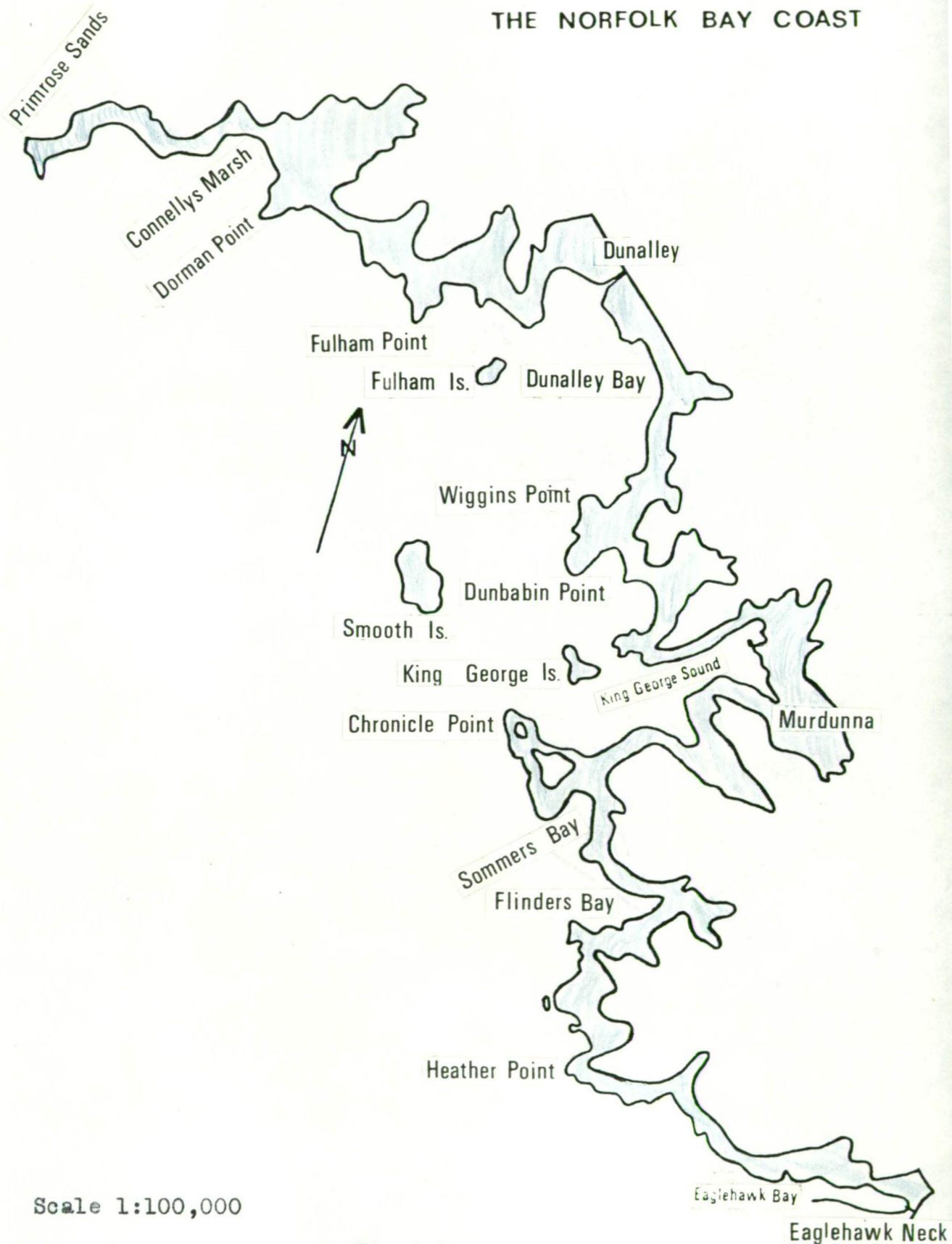


Fig.2.1

superimposed on the dolerite by subsequent tectonic activity gives rise to roughly four sided columns and this aids the development of a precipitous margin, but in those areas where jointing is more confused a gentle slope to the coast results.

The only other igneous rock in the area is the volcanic rock basalt which outcrops in only two localities namely at Connellys Bay and on the shore of King Georges Sound near the junction of Sommers Beach Road and Chronicle Point Road. A remnant of volcanic activity in the Tertiary Period (two to 63 million years ago) basalt is a rock common throughout Tasmania. It has no real influence on the coastal area except where extensive outcrops give rise to good rich soils. In Area 1, however, all the basalt outcrops are small and virtually of no consequence.

The sedimentary rocks of Area 1 which are consolidated, belong to the Triassic Period. These occur in the vicinity of Connellys Bay and at Coalmine Hill at the southern end of Carlisle Beach. Consisting of sandstones, shales and siltstones of freshwater origin, the Triassic sediments are interesting in so far as they contain the only true mine in the entire study area. Located on Coalmine Hill is a small tunnel which follows a steeply dipping coal seam under the Arthur Highway. Its origins are obscure but it is probably an exploratory dig made by convicts in the very early days of the colony. In any event it is likely to have some historic potential and, located as it is close to the road the adit, about one metre high and dug by hand, gives a good idea of the conditions that early mine workers had to tolerate.

There are some unconsolidated or poorly consolidated sediments within Area 1 which are shown on the Geological Map¹ as Holocene. There are at least 18 such beaches in Area 1 alone and all are composed of recent sediments. In general, the Norfolk Bay beaches form extensive inter-tidal flats, which are predominantly of clean white sand. In the northwestern part of Area 1 where the opening to Frederick Henry Bay narrows and current activity is greater, the inter-tidal flats do not extend seawards nearly so far. Thus the inter-tidal flats of Sommers Bay, Dunalley Beach and Bellettes Bay extend further seawards than do those at Connellys Bay, Susan Bay and Gipsy Bay. Also shown as Holocene on the Geological Map² are the complex clays of the Denison Canal although the only geological investigation of them refers to their age as being Tertiary.³ This investigation used a gravity survey to ascertain their depth and this was revealed as up to a maximum of 130 metres. Such a depth of clay sediments suggests that the age may be Tertiary to Holocene. The Denison Canal which is cut through this clay deposit is discussed in Appendix 3 devoted to Blackman Bay, Area 2.

THE NORFOLK BAY COAST

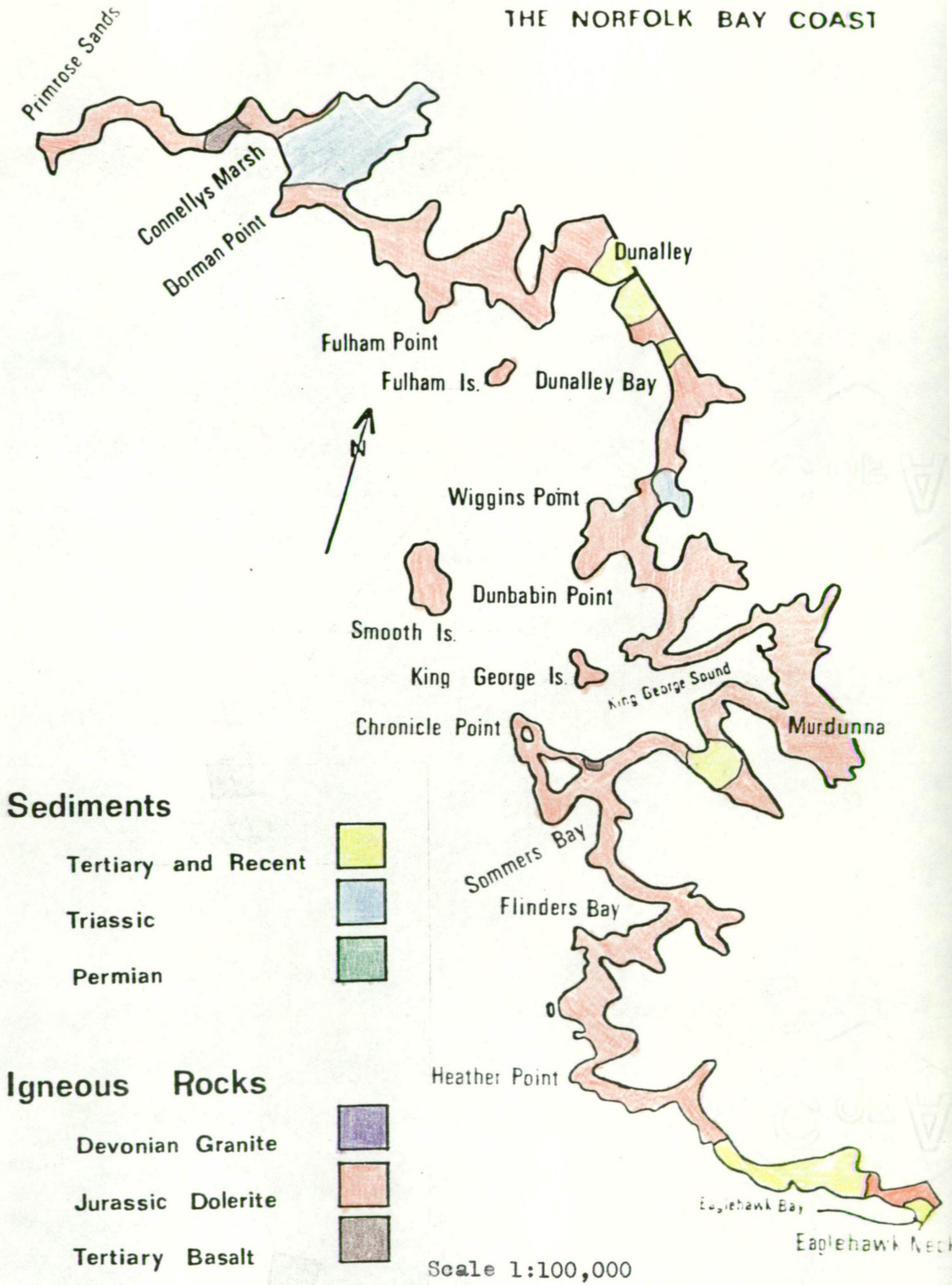


Fig.2.2

2.2 BOTANY

Botanically Area 1 is not complex. Details of species identified at a number of different locations are given in Appendix 5. In the region west of the Denison Canal, extensive land clearing has occurred and only remnants of the original vegetation remain. In the southern half of Area 1, however, there has been little clearing and much of the natural vegetation remains although there is considerable evidence of extensive overburning.

In general, the trees form an open forest. In most areas *Eucalyptus viminalis* (Manna gum) constitutes at least part of the tree cover. Where the soil is richer *Eucalyptus globulus* (Blue gum) and *Eucalyptus oblique* may form the dominant alliance of a somewhat higher canopy. Commonly the middle stratum contains *Casuarina stricta*, *Casuarina littoralis*, *Exocarpus cupressiformis*, *Banksia marginata*, *Acacia dealbata*, *Acacia melanoxylon* and more rarely *Acacia mearnsii*. The lower stratum varies from place to place. In some areas there is a hummock grass alliance with *Poa rodwayi* a dominant, whilst other areas feature *Lomandra longifolia*, *Themeda australis*, *Dactylis glomerata* and *Senecio linearifolius*. Land which has been cleared and not properly grassed often deteriorates to a plant community dominated by *Pteridium aquilinum* (common bracken fern).

The most persistent botanical feature throughout the area is the composition of the plant communities on the headlands. Typically the tree stratum at the most exposed extremity of the headland is *Casuarina stricta* (she-oak) whilst inland a short distance eucalypts (usually *E. viminalis*, *E. obliqua*, *E. globulus* but sometimes *E. ovata*) become the dominant tree. The understory on the exposed extremity of the headland is usually rich in *Poa rodwayi* or *Lomandra longifolia*. Also present and usually constituting a middle stratum is *Banksia marginata* which may be especially abundant in areas frequently fired. The succession is also apparent even where clearing has occurred. In such places remnant stands of *Casuarina stricta* are usually confined to the seaward edge of the headland above a ground cover of tussock grasses and *Lomandra longifolia* or *Lepyrodia tasmanica* whilst the stumps or stags of dead eucalypts fringe the cleared land immediately behind.

Another botanical feature of this Norfolk Bay coast is the interesting closed scrub alliances found on moist south or southwesterly slopes or in damp gulleys. At Duck Creek and immediately behind the beach at Sommers Bay, closed scrub alliances occur with *Melaleuca squarrosa* as a dominant. The Sommers Bay community is especially interesting from a botanical point of view, featuring *Phragmites communis* with *Acacia verticillata* and *Leptospermum scoparium*. These communities have developed as a result of a particularly moist environment which has been kept free from fire for an extended period of time. The profusion and variety of animal droppings indicates that such areas provide valuable refuge and shelter for many native animals of the area.



Plate 2.1 Norfolk Bay is an almost land-locked waterway which gets much of its charm from the numerous protected coves, beaches and islands. Pictured here is King George Island. Photo P. Keage.



Plate 2.2 The northwestern region of Area 1 is characterised by cleared agricultural land which extends right to the coastal margin.

2.3 HISTORY

The Norfolk Bay coastal area is not rich in history although there are some associations that are worthy of consideration. Bass and Flinders after spending Christmas of 1798 on the Derwent River, sailed into Norfolk Bay.⁴ It was Flinders, incidentally, who mistook today's Frederick Henry Bay for the Frederick Hendrick Bay of Tasman and initiated a misconception that persists to the present day. Giblin⁵ has documented the exploits of Bass and Flinders in Norfolk Bay in some detail. The two explorers anchored under the Isle of Caves on which they landed and noted that natives had previously visited the island. They also landed upon Smooth Island in the bay.⁶

"... a smooth, beautiful looking island which being more than 100 acres and would make a fine garden."

It is interesting that both these names, Smooth Island and Garden Island persist today. Smooth Island is the name recorded on the charts but many local people still refer to it as Garden Island. Much of the coastline has not changed greatly since the visit of Bass and Flinders. Referring to the shores of Norfolk Bay, Flinders wrote,⁷

"The mainland in the vicinity though covered with woods and often stony and barren was much frequented by kangaroos."

The two explorers also travelled to the southern-most end of Forestier Peninsula and,⁸

"... observed through the gap of Eaglehawk Neck a blue distant land that he (Flinders) guessed might be one of the Maria Islands."

Bass and Flinders did not establish irrefutably that Forestier and Tasman Peninsulas were indeed peninsulas although the chart that Matthew Flinders produced⁹ does show a land connection at East Bay Neck (Dunalley), a judgement no doubt made from a distance. The verification that there was a neck of land at Dunalley was left to Henri Freycinet who was a member of Baudin's Expedition.¹⁰

During the convict era, Norfolk Bay featured two major points of interest both of which have unfortunately been destroyed. At Eaglehawk Neck on the narrow isthmus separating Forestier from Tasman Peninsula was the Guard House along with its almost legendary dogs. Although virtually nothing now remains to remind us that Eaglehawk Neck was the gateway to the penal settlement at Port Arthur, their very existence in the past has provided the area with a significant historic base worthy of retention and further consideration. Another convict era focus was at Flinders Bay where a probation station existed at least up until 1810.¹¹ It is generally believed that it was burned down and never rebuilt. There is little evidence of the dramas that were once enacted in a play of life and death around these shores.

2.4 AREA 1. THE IMPACT TO DATE

Since the first European settlement, Area 1 has suffered two major impacts. The first of these has been the rural development and its effects have been largely felt along the region between the Denison Canal and the Carlton River. The second impact has been the weekend shack development particularly in the vicinity of King George Sound and Sommers Bay and Connellys Beach. Further development of shacks has also occurred along the northern shore of Eaglehawk Bay. The growth of Dunalley, Murdunna and Eaglehawk Neck has also heightened the impact of these settlements on the area but in general it may be argued that growth which has not been weekend-shack orientated has not been significant in altering the area.

The major problem associated with shack development in the area is that of lateral extension from the earlier localised population centres along the coastal margin. On the Sorell coastline north of the study area, from Lewisham to Carlton River and also at Primrose Sands, the coastal zone has become dominated by development to such an extent that much of the margin has been spoiled or access has been made difficult. Within the study area there are definite signs of similar circumstances developing although at this stage the problems are not so excessive as to be insoluble. Excessive linear shack development has occurred at Jetty Road on the northern shore of Eaglehawk Bay, on parts of Sommers Beach Road on the southeastern shore of King George Sound and at Sommers Bay. Other possible centres from which further pressures may arise are at Flinders Bay, Bellettes Bay and near the southern end of Carlisle Beach. In the northwest of Area 1 at Connellys Bay where the cluster of holiday homes is at present well confined, there may be further tendencies to expand and a similar situation exists at Susan Bay and Gypsy Bay. At present there are three broad areas which are more or less unspoilt by this type of development. These are the area on the seaward side of Fulham Road from Dorman Point to Dunalley, the area southwest of the Arthur Highway between Carlisle Beach and Wellard Bridge at the northeastern end of King George Sound and the area from Flinders Bay to a point about midway down Eaglehawk Bay. If the integrity of the coastal domain of Area 1 is to be maintained then no further home or shack development should be allowed in these three areas. Furthermore, real attempts should be made to contain further shack or house building to those areas where the population is now concentrated. For example, no further subdivision of land between Sommers Bay and Flinders Bay should be permitted. Such a decision would enable the two centres to retain their individual character and would prevent further alienation of the coastal area in between. The collection of shacks at Connellys Bay is a good example of this type of approach. At present (and hopefully in the future) the houses are confined to one corner of the bay. Lateral extension along the foreshore has been kept to a minimum and there is room to allow for further subdivision on the elevated land among the trees that tapers up the valley away from the water. In this way the population minimises its impact on the area, preserves the visual amenity and furthermore, leaves the bulk of the coastal area unspoilt for the enjoyment of all.

The same could not be said of the area around Murdunna. Shack development along Sommers Bay Road has been a haphazard affair. Prior to 1950, the Esplanade (now called Sommers Bay Road) extended along about 300 metres from the Arthur Highway. A track only existed to Chronicle Point and Sommers Bay.¹² There was no bridge over Duck Creek other than a log which assisted foot traffic. The first shacks built to a reasonable standard were constructed at Shelly Point about 1 Km. from Murdunna, and subsequent building took place as far round as Duck Creek. After the building of the Duck Creek bridge and the improvement of the road, buildings sprang up at Sommers Beach and this development, infilling many of the intervening gaps, has continued to date. The parallelism of the road and the coast has made this area ideal for cheap subdivision. In line with this philosophy, blocks have been cut off to the right and left of Sommers Bay Road, although some side roads have been constructed where the gap between the road and coast is greatest. Coupled with this development has been the problem of indiscriminate clearing of land and severe overburning. This has led to the growth of a low harsh fire tolerant ground scrub with a middle stratum composed of *Casuarina littoralis* and some mallee type eucalypts. The fire frequency and clearing has left many parts devoid of the larger eucalypts that once formed the upper canopy. *Banksia marginata* another fire tolerant species is also present as part of the higher scrub layer. The absence of substantial trees detracts significantly from the area. Often forsaken to improve the view or for fear of forest fires, the removal of these trees has the opposite effect to that desired on both counts. The absence of trees coupled with poorly designed unattractive square buildings dominating the bluffs and headlands, detracts substantially from any view. Furthermore, the absence of trees and the predominance of fire succeeds in generating successively heavier and heavier growths of annual plants, grasses in particular, and other fire tolerant species. These fire tolerant species regenerate rapidly after fire and during the drier periods they are extremely combustible. Some incentive to re-establish a mature tree canopy would enable the visual amenity of the area to be substantially improved and would also lead to a reduction in ground scrub cover thus bestowing a double benefit on the shack owners. In this respect it is interesting to note that the shacks of the area from Duck Creek to Shelly Point seem to have a far more dominant effect on the area than does the quite substantial chicken farm north of Duck Creek Beach. It seems that the chicken farmer has taken rather more care of the scenery than have some of the shack owners even though intuitively one might have expected the occupiers of shacks to have been more concerned with visual amenity. Nevertheless, such an intensive farming operation is in no way a coastal dependent activity and the location is an unfortunate one.

¹ Department of Mines, 1975; Tasmanian Geological Atlas Series Sheet SK 55-8; Department of Mines, Hobart.

² *Ibid.*

- 3 LEAMAN, D.E., 1971; Gravity Profile, Tertiary Deposits,
Dunalley, *Mines Department Technical Report* no.16,
pp.108-9.
- 4 GIBLIN, R.W., 1928; *The Early History of Tasmania*; Methuen
and Co. Ltd., London.
- 5 *Ibid.*
- 6 *Ibid.*
- 7 *Ibid.*
- 8 *Ibid.*
- 9 *Ibid.*
- 10 WALKER, J.B., 1950 (3rd impression); *Early Tasmania*,
Tasmanian Government Printer, Hobart.
- 11 BRAND, I., 1978; *Penal Peninsula, Port Arthur and its Out-*
stations, 1827-1898, Jason Publications, Glenorchy.
- 12 Personal communication with residents of the area.

APPENDIX 3

PROFILE AREA 2

by R.J. Millington

BLACKMAN BAY

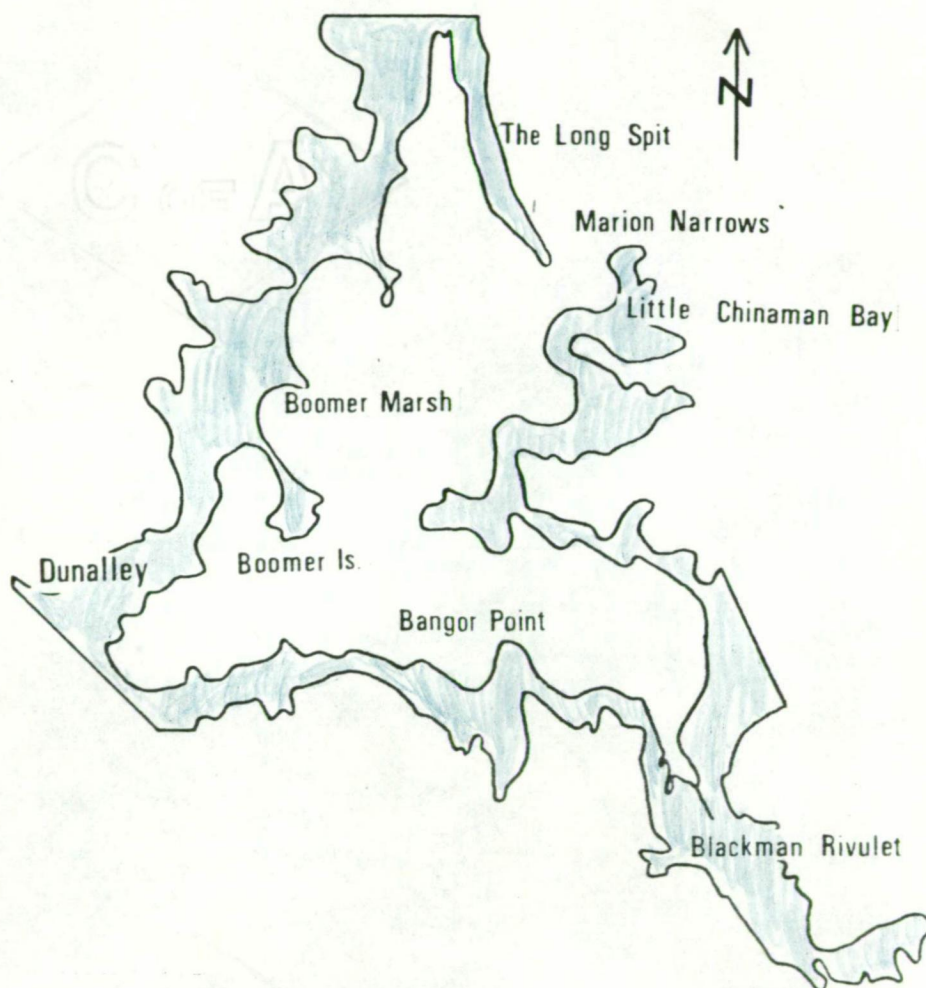
Area 2 centres on the almost enclosed body of water known as Blackman Bay. The bay is open at its northeastern end through Marion Narrows and at its southwestern end by the Denison Canal. The largest watercourse draining into Blackman Bay is the Blackman Rivulet which has its catchment amongst the timbered areas of Forestier Peninsula. With the potentially mobile sands of Marion Spit forming the bay's northeastern margin and both tidal scour and wave action playing an important erosional and depositional role, the bay constitutes an area of considerable current geomorphological activity.

3.1 GEOLOGY AND GEOMORPHOLOGY

The oldest rocks are the Permian sediments which outcrop in the vicinity of Little Chinaman Bay and Tea Tree Bay. Here they form a low cliffed coastline which extends beyond Area 2, to Watsons Bay near Cape Paul Lamanon in Area 4. On the geological map¹ these sediments are referred to as a Permian upper glacio-marine sequence of pebbly mudstone and limestone. This is in keeping with the observable evidence. However, the Permian outcrop shown on the same map at the northern end of Boomer Island appears to be incorrectly identified. Here the sediments are primarily unfossilised sandstones with extensive cross bedding, truncated cross bedding and other features typical of sediments deposited in an environment of high current activity. There is little doubt that these sediments are of Triassic Age. Permian sediments also occur inland and northwest of Little Boomer. In general, the Permian sediments were deposited in a marine environment in relatively shallow seas at a time when the adjacent land mass was being eroded by glacial action.

AREA 2.

BLACKMAN BAY



Scale 1:100,000

Fig. 3.1

BLACKMAN BAY

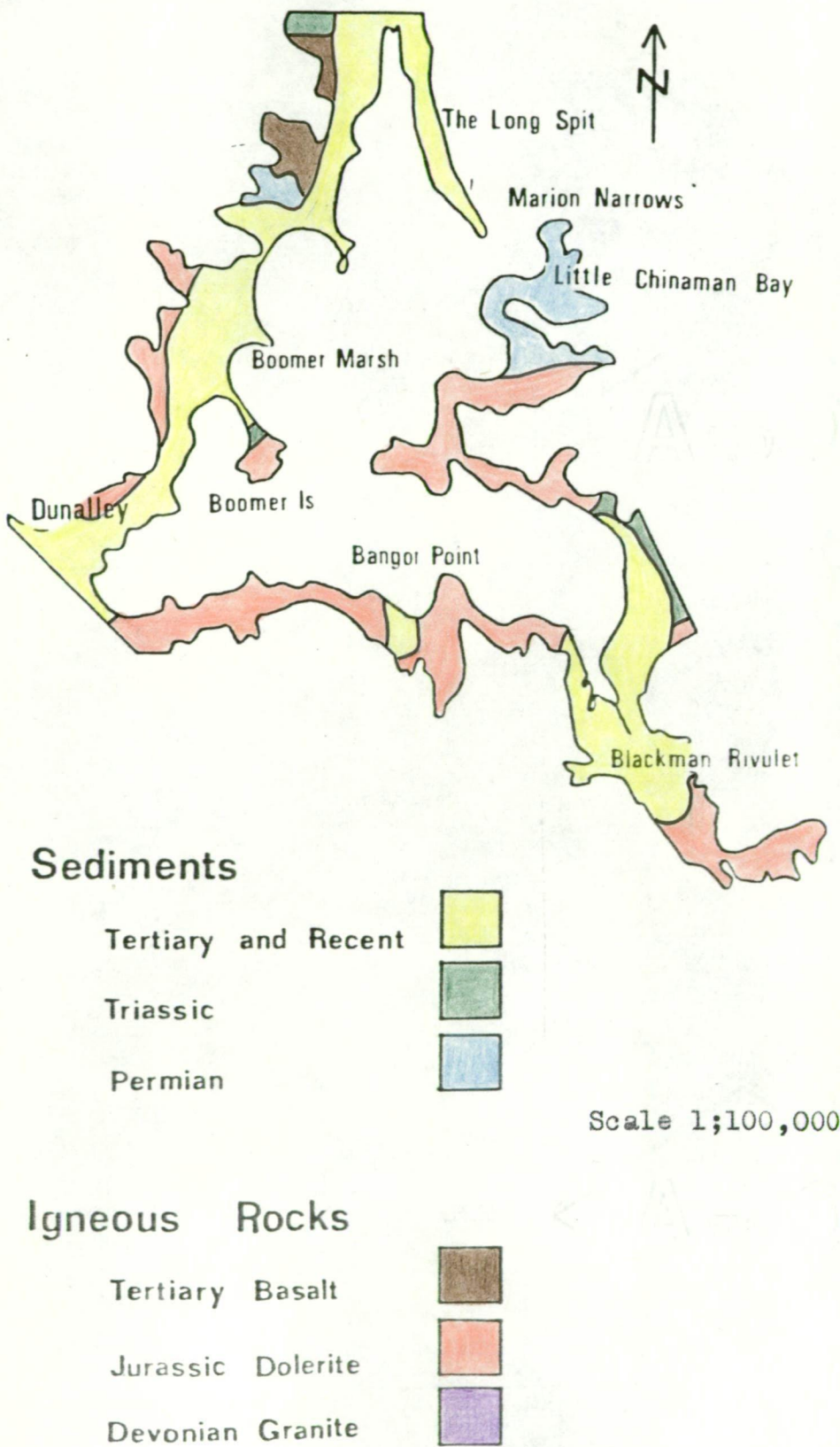


Fig. 3.2
3.

These glaciers spawned icebergs which floated out over the depositional area and dropped pebbles and boulders into the muds and sands of the sea bed. These pebbles and boulders often faceted or scratched by ice action can still be identified in the Permian sediments today. They are called glacial erratics and their origins can be traced back to those older rocks which composed the Tasmanian hinterland at the time. Many of the erratics are schists and gneisses of Precambrian Age.

Triassic sediments outcrop in just two places in Area 2. The main outcrop occurs about 1 km. northeast of the estuary, of Blackman Rivulet. Here the sediments stretch across the low isthmus to North Bay in Area 4. The second outcrop is the one already mentioned above and incorrectly shown on the geological map as Permian. This is a small outcrop at the northern end of Boomer Island. The Triassic sediments of Area 2 are similar to those throughout the entire study area. They are essentially freshwater deposits, predominantly lacustrine and consist mainly of sandstones, siltstones, mudstones and shales. During the Triassic Period the climate in Tasmania changed markedly and this is reflected in the sedimentary sequence. The early Triassic sediments were deposited in lakes where vegetation was dense, an environment rather like that of the Florida Everglades. However, during the latter part of the Triassic Period the depositional site was arid and plants and animals were relatively rare. During this time the climate must have been rather similar to that which currently exists at Lake Eyre in South Australia.

The main aspect of the Triassic sediments that has some relevance to land use, is that certain beds within the sequence are very prone to erosion. In particular the Knocklofty Sandstones and Shales, an alternating sequence of micaceous and graphitic sandstones and shales within the Triassic System, and occurring in many places throughout the State, must be treated with great care during land clearing operations. If the Knocklofty Sandstones and Shales are exposed at the surface an erosion pattern known as badlands erosion may develop and the land degenerates into a complex system of small gulleys and ridges (badlands) and restoration to a manageable form may be both difficult and expensive. In future, proposed changes in the land use pattern where Triassic sediments occur should be preceded by a geological investigation to ascertain which components of the Triassic sedimentary sequence might become exposed and what the consequences might be.

The Permian and Triassic rocks throughout the study area have been intruded by the Jurassic dolerite discussed in the Appendix 2. In Area 2 it forms the dominant rock type along the southeastern shore of Blackman Bay where a low profile coastline has evolved. The main area of Boomer Island is also dolerite as is much of the higher country inland and northwest of Boomer Island. In general the soils which have developed on the dolerite, the black clays, offer the main support for the farming operations of the region.

At the northern end of Area 2 in the vicinity of Bream Creek, basalt of Tertiary age occurs and this extends to the quarry on Bay Road



Plate 3.1 Bream Creek flows down within the dune system of The Long Spit. Here good vegetation cover gives the dunes a high degree of stability.



Plate 3.2 The wetlands in the vicinity of The Long Spit have been drastically altered by inappropriate attempts at reclamation.

near Little Boomer. The basalt at the Dunalley quarry has been described by Everard² as being

" . . in every way a characteristic basalt of Tertiary Age. The rock is black in colour often containing visible crystals of olivine. It is fine grained and extensively fractured and as such it is easily extracted and eminently suitable for use as road metal with little or no crushing being required."

The rock type of Little Boomer is shown on the geological map³ as basalt but this is erroneous. In fact the outer consolidated material of Little Boomer is a sedimentary deposit of alternating beds of sand and water worn boulders. These are likely to have been deposited as a beach accumulation during the time that the sea level corresponded to the Milford Level of Davies.⁴

By far the most interesting aspect of the geology and geomorphology of Blackman Bay are the sediments broadly referred to as Holocene on the geological map.⁵ It seems likely in fact that these sediments have ages ranging from Holocene to Pleistocene and perhaps even Tertiary. These sediments form extensive deposits along the north-western shore of the bay as well as composing The Long Spit leading to Marion Narrows. Similar deposits are also shown at the mouth of Blackman Rivulet. It is these sediments, deposited over an extensive time range and which in some areas are still being accumulated, that give Blackman Bay its active nature. The deposition of these sediments has been complicated by the changes in sea level that have occurred in more recent geological time. Davies⁶ identified two former shorelines corresponding to sea levels which he names Llanhern and Milford. Both of these former shorelines are evident in Area 2, although it is now generally recognised that the picture developed by Davies is an oversimplification.⁷ In fact accurate measurements around the Tasmanian coastline reveals a multiplicity of former sea levels resulting from the combined effects of isostatic and eustatic adjustments as well as normal tectonic movement.⁸ Nevertheless, the Llanhern shoreline and the Milford shoreline are clearly evident on the northwestern shore of Blackman Bay. The lowering of the sea level to its present level has left Blackman Bay with a complex array of emerged shorelines which have been stabilised to varying degrees by vegetation cover. The situation has been further complicated by the progressive elongation of The Long Spit. This has changed the erosional and depositional patterns within the bay during its development. A further complication has been the artificial opening of Blackman Bay at its southwestern end with the building of the Denison Canal earlier this century.

As a result of all of these factors it seems that the pattern of erosion and deposition has been continually changing. Observation of the emergent forelands along the northwestern shoreline revealed that the inner part of the forelands were migrating by the process of aggradation and erosion to the southwest while the same processes of accumulation at the outer end were producing a north easterly move-



Plate 3.3 View of The Long Spit looking south towards
Forestier Peninsula.
Photo P. Keage.



Plate 3.4 The spit is a sensitive area where there is a fine
balance between the forces of erosion and deposition.
Photo P. Keage.

ment. This combination of processes is at present changing the shape of the forelands drawing out the ends into a more attenuated form. The small foreland to the northeast of Little Boomer shows a similar pattern although that portion of the foreland above sea level does seem to be showing an overall migration to the south towards Little Boomer. Aerial photographs reveal, however, an underwater accumulation of sand at the outer end and somewhat to the northeast. Similar accumulations occur at the seaward ends of Boomer Island and the small foreland between Boomer Island and Little Boomer and the presence of such deposits seems to suggest a predominant trend along this northwestern coast of Blackman Bay rather than haphazard random changes. It has been suggested that the change from erosion to deposition as one moves seawards along the forelands may be related to the progressive lengthening of The Long Spit towards Marion Narrows.⁹ Certainly The Long Spit is a recent deposit but it would be difficult to test this hypothesis without a detailed survey of the hydraulics of the embayment. In view of the limited migration which thus far has occurred, it would seem more likely that the movement of these forelands may have been initiated by the change in tidal pattern as a result of construction of the Denison Canal although the main activity seems to be determined by wave action. One possibility is that the canal may have given rise to a slight elevation of mean highwater mark (the rise and fall of tide in Norfolk Bay is some six feet, considerably higher than most other places in south east Tasmania) and this in turn may have increased the competence of wave action on the forelands. The situation is further complicated by a close examination of aerial photographs. The vegetation patterns on each of the forelands as well as on the outer part of the Boomer Island spit reveal a sequence of advances in both directions (i.e. northeast and southwest) and this observation supports the contention that the present erosional phase on the inner northeastern margins of the forelands is a relatively recent phenomenon.

The other major feature of geomorphological interest in Area 2 is The Long Spit, the sandy arm that separates Blackman Bay from Marion Bay. The Spit is more than seven kilometres in length and has grown south from an origin near Franks Marsh in the north. In its northern and central regions it shows a high degree of stability but further south the vegetation cover is less and the stability of the sand mass is reduced. The advance of the spit southwards has continually silted over the outlet of Bream Creek to the sea and over time this has deflected the creek further and further south, thus elongating the creek. The reduced gradient and the elongation have reduced the competence of Bream Creek such that in its lower reaches the water is almost stationary and for most of each year, water soaking through the sand of the beach removes sufficient material to keep pace with the water intake of the catchment. Thus except during times of flooding, Bream Creek has no mouth open to the sea.

At the extreme southern end of the spit, vegetation cover is minimal and there are numerous flat areas close to the sea where water has advanced from time to time. At this extremity the deposit is predominantly littoral with a minimum amount of wind-deposited sand.

Here also tidal scour of the Marion Narrows conflicts with the long shore drift of the beach and a complex pattern of erosion and deposition has evolved. At least two major underwater deposits occur off the southern most tip of the spit and these obstruct the tidal waters moving through the narrows. On either side of these obstructions deep water channels occur so that the margin of the spit is adjacent to deep water and deep water also abuts the shoreline of Little Chinaman Bay. The larger of these two deposits has a shape similar to the end of the spit and paralleling the shores of Little Chinaman Bay. It would seem therefore, that the deposition at the end of the spit and the deposition within Marion Narrows is tending to promote erosion along the shoreline of Little Chinaman Bay. Although the rock type of the hinterland is resistant to erosion the proximity of deep water to the beach means that erosion is likely to continue at a significant rate and those few shacks built right on the foreshore are likely to be threatened in the future. Erosion is not likely to proceed at a regular rate but one could expect that given the right combination of high tides coupled with strong north-westerly winds, or heavy northeasterly swells, rapid advances might well occur. For other reasons this area is an unsuitable environment for shack development but even if the criterion is restricted to the well-being of the shacks themselves the area would still seem to be unsuitable at least for foreshore structures.

The Long Spit spans the junction of Area 2 and Area 3 and as has been mentioned already the structure shows increasing stability towards its northern end. The relatively immature southern reaches are much less stable. Near the 'mouth' of Bream Creek some sand blow activity has occurred and numerous smaller break-aways have occurred further south. The vegetation cover here is much reduced and the type of vegetation changes as one progresses along the spit. At the extreme southern end there is evidence that the spit is advancing seawards. Certainly along the entire length of the spit included in Area 2 there is considerable evidence of activity and furthermore, the protected westerly margin is being actively eroded by wave action along a considerable portion of its length.

The Long Spit then is a deposit not yet consolidated which is continually adjusting and readjusting in response to the natural forces to which it is exposed. Being composed of a mobile material it is a system which must be treated with the utmost care. Inadvertant action by man could easily initiate undesirable and possibly irreversible processes. It is important to understand that should such inadvertancy lead to widespread mobility of the sands there is little that Council or indeed government generally, could do to contain such movement, constrained as such actions inevitably are, by physical, financial and logistical factors.

The southeastern shoreline of Blackman Bay is rather less active being predominantly a low lying rocky margin. There is, however, a region of shallow water depositional and erosional activity in the unnamed bay between Green Point and Bangor Point into which the Blackman Rivulet flows.

In summary the system of erosion and deposition taking place within Area 2 is complex. There are nevertheless, clear implications that can be drawn from the picture thus far presented, for environmental management. Primarily these implications relate to the sediments deposited since the Tertiary Period and those which are still being deposited now. The key point is that these sediments are unconsolidated and therefore are extremely prone to erosion. Furthermore, they are located within a system which is characterised by active agents of erosion and as such much of the marginal land of the shoreline is continually shifting and adjusting in response to changes in the dynamic equilibrium that occur from time to time. The situation has been further complicated by the building of the Denison Canal and the fact that there is already some shack and house development along the margin of the bay. Any such development in the future will need to consider carefully the potential mobility of this foreshore land and the possible consequences of interference with the dynamics of the system as a whole.

3.2 BOTANY

Parts of Area 2 are botanically similar to the Norfolk Bay coastline discussed in Appendix 2. Along the southern shoreline of Blackman Bay the coastal area is a grazed tussock grassland with remnants of the former woodland being preserved often on the headlands and in elevated areas. The outer margin of the headland has a predominance of *Casuarina stricta* backed up by eucalypts, often *Eucalyptus viminalis* and *Eucalyptus amygdalina* with *Banksia marginata*, *Acacia dealbata*, *Acacia mearnsii* and *Casuarina littoralis* common, while *Exocarpus cupressiformis* and *Acacia melanoxylon* are less common.

By far the most interesting botany of Area 2 occurs along the north-west coastline of Blackman Bay. In particular the wetlands behind The Long Spit and at Boomer Island and in the vicinity of Little Boomer merit considerable attention. Much of the coastal area of this part of Blackman Bay has been altered by agricultural and residential development but the vegetation close to the sea margin remains very much intact. There are two fundamental types of plant communities on the low lying forelands. These are the salt marshes which are occasionally covered by high spring tides¹⁰ and the grasslands just beyond the highest tide level. The salt marshes occur quite extensively behind The Long Spit of Marion Bay, and extend intermittently as far south as Boomer Island. Herbs present include *Juncus maritimus*, *Distichlis distichophylla*, *Plantago coronopus*, *Salicornia quinqueflora*, *Salicornia australis*, *Suaeda australis*, *Samolus repens* with shrubs of *Arthrocnemum arbuscula* concentrated along the margins of the waterways. The slightly higher grasslands in some areas are extensive and feature *Poa poiformis*, *Stipa stipoides*, *Gahnia filum* and *Distichlis distichophylla* as well.

Saltmarshes and wetlands of this type play an important role in the natural system. These low lying flat lands with their intricate and



Plate 3.5 Part of the saltmarsh at Boomer Island with The Long Spit and Marion Narrows in the background.



Plate 3.6 These grasses of Boomer Marsh are established on the forelands which have emerged since the drop in sea level from the Milford Shoreline of Davies.

and complex drainage patterns, the mud and the herbs and grasses provide a different type of edge from that which normally separates sea and land. In such areas the edge is diffused and the sea water mixes only slowly with fresh water draining from the land. Wave action is reduced and the shallowness of the water excludes the larger sea creatures. Thus protection is provided for a wide range of smaller fish, crustaceans and molluscs in an environment which offers food, a secure refuge and the warmth of shallow water not available elsewhere. The availability of food and nutrients is an important aspect of these areas. It has been demonstrated¹¹ that energy consumption within saltmarshes exceeds production indicating that the system must depend on inputs of organic detritus. This supports the contention that such areas are rich in food sources. Further work¹² has shown that nitrogen fixation also occurs in saltmarshes. This is achieved mainly by blue green algae which occur in all zones of saltmarshes, but the study also showed that nitrogen fixing bacteria do carry out small but consistent levels of nitrogen fixation in many parts of the marsh. Thus it is likely that such wetlands make a further contribution of available nitrogen immediately to seawards. This illustrates another point and that is that these wetlands do not stand alone but are intimately related to higher land from which they derive much of their nutrient as well as contributing to the sub-tidal and inter-tidal flats.

These areas too are rich in aquatic birds. In 1905 the Tasmanian Field Naturalists Club¹³ reported more than 50 species of birds in the area and this included many waterbirds and coastal species. Some of those mentioned were, the black headed dotterel, the black swan, both kinds of oyster catchers, Pacific gulls, little gulls, swamp hawk, the black duck and others. Sharland¹⁴ has recorded pelicans in the area and there are numerous blue cranes and egrets present at most times. This diversity of bird life is a reflection of the fact that the combination of beaches, grassed forelands and saltmarshes is an overlapping complex of habitats which warrant special care and attention. Furthermore, it should be understood that loss or diminution of any one of the components will affect the total ecological complex. For example, nutrient or food production losses caused by removal or infilling of the wetland areas of Blackman Bay may well adversely affect the fish population in the bay proper. In particular flounder which feed on the shallow mudflats, and commercial oysters would be the two groups most directly affected but others further removed would also be influenced. Care is also needed to ensure that the complexity of the wetland edge is not oversimplified by drain construction and the like. It has been shown¹⁵ that two factors, salinity and water logging actually determine the limits for many saltmarsh species and furthermore, that some plants not only tolerate salt but require it. Thus simple alterations like levee construction and drain 'improvement' may all significantly affect the habitat. Such things should be avoided if diversity maintenance and population stability is seen to be important.

In the past, marshes and wetlands have largely been considered waste lands and as a result they have been much reduced in area. Michael Sharland referring particularly to Boomer Marsh and other similar

areas in the state, explained the dilemma of coastal wetlands superbly:¹⁶

" . . intimate little wilderness places serving as refuges for birds and smaller kinds of animals, most of them very precious to the nature lover on this account.
 . . so many of the intimate little wilderness marshes are disappearing for one reason or another that one can no longer see the original bird inhabitants there. Councils use them to dispose of filling, roadway widening wipes them out, housing estates swallow them up, and so on.
 . . They are in effect miniature nature refuges, little bits of wild nature along some bushland creek, in a ditch beside a highway, round some reedy waterhole, sometimes the last resort of certain plants and water life.
Public authorities just don't know what they do when, with the best intentions, they improve such objects as a creek bank, a roadside hedge, or an old hollow tree. So many of these little nature refuges have been swept away in municipal cleaning up campaigns.
 . . A reedy pond, semi-stagnant, is one that wildlife likes best. There is food in the water, protection in the reeds."

The other feature of the botany of Area 2 centres on The Long Spit. Here the vegetation cover diminishes from north to south indicative of the more 'youthful' nature of the southern end. In the northern section of Area 2 near the mouth of Bream Creek, the vegetation is generally well established and dense. No doubt the presence of Bream Creek in the centre of the dunes has provided moisture which has assisted vegetation growth and allowed the development of mature ground cover. Away from the sea on these stable areas *Acacia dealbata* and *Bursaria spinosa* are frequent shrubs. In the past eucalypts have formed much of the tree cover although today these have almost been completely wiped out by excessive burning, ring-barking and general abuse. This has left a tussock grassland behind the foredunes featuring *Lomandra longifolia*, *Poa poiformis*, *Pteridium aquilinum* as the major species with some *Ammophila arenaria* less common in stabilised areas. On the foredunes *Ammophila arenaria* is the dominant species being a pioneer, and it is commonly associated with *Festuca littoralis*, *Cakile maritima*, *Rhagodia baccata* and sometimes with *Acacia sophorae*. To the south on the more immature section of the spit *Acacia sophorae* and the other shrub-like species become less common and in these regions *Ammophila arenaria* is clearly the dominant species with more rarely *Lomandra longifolia*.

Lupinus arboreus (Tree Lupin) has been introduced to parts of the dune system presumably in an attempt to stabilise the area and this has established good cover. Also some agricultural activities along the western margin of the spit have been initiated. Agricultural

activities on these semi-stable areas are most undesirable and there is a real chance that they may precipitate widespread sand movement. Thus far it may be argued that these activities have had little effect although the loose and unconsolidated sand adjacent to the saltmarsh immediately west of the 'mouth' of Bream Creek has already got the makings of a small sand blow. However, the point needs to be made that activities such as ploughing, tilling and cultivating of dunes and stabilised or semi-stabilised sands together with grazing (particularly overgrazing) may sufficiently destabilise the sands such that given a particular set of weather conditions the whole of the sand body could be mobilised. The effects of such a mobilisation would be considerable and might well extend to areas far beyond the immediate vicinity of the spit, threatening farmlands and residences of adjacent areas and possibly altering the tidal flow patterns of the entire embayment and the Denison Canal. Governments all over the world have been made aware of the penalties which can be involved when large bodies of sand are inadvertently mobilised. Those who would argue that similar actions in the past have caused no harm are merely closing their minds to the fact that this has arisen more by good luck than by good management and that if we continue to promote dune destabilisation, sooner or later widespread sand movement will occur.

3.3 HISTORY

The role of Blackman Bay in the early history of Tasmania is closely linked with that of Marion Bay. The historical significance of these areas is specifically dealt with in Chapter 3, but there are some particular aspects relating to Blackman Bay which I shall mention here.

The first exploratory trip that Tasman's party undertook was commanded by Pilot Major Visscher and was an excursion through Marion Narrows and into the protected waters of Blackman Bay. During this trip which took the boat party about four miles from the anchorage off Two Mile Beach, the party gathered plants and searched for water. The exact location of the watering place as shown on Tasman's charts has been the subject of much conjecture among historians. Curtis and Sommerville¹⁷ attempted to identify the site by locating the plant alliances that are referred to in the various editions of Tasman's Journal. After quite exhaustive surveying they concluded that the plant community which most closely identified with Tasman's records was the grass and saltmarsh vegetation at the mouth of Boomer Creek. These conclusions have been further supported by a document prepared by A.L. Meston¹⁸ and published after his death. As Meston pointed out, the position of the 'Water Plaats' marked on the Gilsemann chart and recorded in Tasman's Journal does agree with the Boomer Marsh location. It is generally agreed that Blackman Bay was the site of the first recorded landing of European man in Tasmania and now it seems the more recent evidence favours the mouth of Boomer Creek as the exact location. It may seem somewhat of an anti-climax that the

long search for the precise location of the site of the first landing should lead us to marshland in an area of shallow and rather unspectacular mudflats. Yet this is just a function of the way we perceive things and in some ways it is a reflection of our disregard for wetlands generally which in the past has led to such lands being filled and 'reclaimed'. Our diminished wetland stock is a product of just this philosophy and perhaps the fact that at least one sector of our wetlands - Boomer Marsh - is significant from another perspective may persuade us to view them differently in the future. In any event what ever its physical and biological characteristics the area of Boomer Creek and Boomer Marsh is now established as having strong historical associations.

Members of Baudin's expedition in 1802 also sailed the waters of Blackman Bay. Under the command of Henri Freycinet one of the expeditions small boats charted the bay for the first time and established the existence of East Bay Neck,¹⁹ but this visit at a time close to when the British were to establish the first Tasmanian settlement on the banks of the Derwent River is much less significant than Tasman's visit to the area.

The building of the Denison Canal earlier this century is another event that warrants mention. The canal was formerly opened in October of 1905 by the then Governor of the Colony, Sir Gerald Strickland. Built at a cost of a little over seventeen thousand pounds, the canal was of great assistance to east coast shipping. At a time when sea transport was the main means of moving stores and supplies to the east coast residents the canal provided a welcome respite from the rather hazardous voyage around Tasman Peninsula with its renowned capes, Pillar and Raoul. From all accounts, the opening was a rather grand affair with the official steam yacht 'Dover', which transported the Governor and others from Hobart, managing to run aground on a number of separate occasions much to the amusement of the crowd. A number of speeches were made and a luncheon was consumed in a marquee arranged outside the Dunalley Hotel.

The canal was preceded it seems by a wooden railway which was used to transport small boats across East Bay Neck. There are few details available concerning the wooden railway at East Bay Neck but the details of a similar structure at Ralphs Bay which preceded the Ralphs Bay Canal, are well documented.²² Before the railways, bullock teams were used and presumably these simply dragged the boats - perhaps on wooden sledges of some type - from Norfolk Bay to Blackman. Although rather primitive such systems must have been quite efficient. Harry O'May²³ records the case of Constable Morgan who, in 1847, set out from Hobart in pursuit of a group of deserters known to be at Spring Bay on the East Coast. The two boats with armed parties on board took just seventeen hours to travel from Hobart to Spring Bay, the vessels being carried or hauled across both Ralphs Bay Neck and East Bay Neck. During the convict era a probation station was located at East Bay Neck²⁴ and this in turn was linked by semaphore via Mount Forestier to other stations throughout the Peninsulas.

Thus there are at least two significant phases of European history associated with Blackman Bay and it seems rather sad that most people enroute to Port Arthur, pass by without any knowledge of the close relationship that this region has with European man's first exploits into the southern seas and the early days of colonial life. Development of this potential could considerably benefit the fishing village of Dunalley which already has an attractive sea-faring atmosphere about it. With proper information points, detailed explanations of the history, postcards, extracts from journals, museum pieces, photographic exhibitions and the like, could all assist in drawing attention to the significance of the area. Development akin to that which has occurred on the site of Bowen's landing at Risdon Cove might be appropriate at Dunalley. Indeed it is the author's contention that Dunalley should be seen as the gateway to the two peninsulas and their historic complex. These and other details are discussed in Chapter 5.

3.4 THE IMPACT TO DATE

Agricultural development has had a major influence along most of the coastline of Blackman Bay. This influence is least on the southern and eastern margins where much of the country is still used as rough grazing land and bush runs. In this region, the best grazing land occurs on the alluvial flats such as those at the mouth of the Blackman Rivulet. The coastal area northeast of Green Point has been little altered by European man except at Little Chinaman Bay. Here some shack development has occurred, some dwellings being located right on the leading edge of the foredune. As pointed out earlier, this practice is quite undesirable and this is especially so in an area as active as Marion Narrows. However, a more important consideration relates to the status of this land from a national historical perspective. The weekend settlement at Little Chinaman Bay is located only two kilometres from Tasman Bay and the site itself is central to the numerous exploratory trips that Tasman's boat parties made. The remainder of this shoreline is practically unaltered except for navigational aids. Thus in this central location the Little Chinaman Bay settlement is the only real blemish on what is a national historic site.

In the southwestern corner of Blackman Bay the township of Dunalley and the Denison Canal constitute the major developmental impacts on Area 2. The development of Dunalley is largely a function of geographical position. It is a nodal point of both the road system and the coastal waterway network used by small ships. This latter aspect has been a direct result of the building of the Denison Canal which encourages fishing boats, yachts and pleasure craft travelling to and from the East Coast to merge at Dunalley. Similarly all road traffic passing to Port Arthur and other parts of Tasman and Forestier Peninsula must pass through Dunalley en route. Thus the town's development is a natural consequence of its location. The population of Dunalley is small and the dwelling density is low, giving the town very much a country atmosphere. In the vicinity of

the slipways, it has quite a pleasant appearance reminiscent of earlier days when the cannery was the commercial centre of the town. Along the margins of the canal there has been limited building and a reasonable expanse of land occurs where visitors are able to stop and study the canal and its traffic. Indeed the fishing village atmosphere of Dunalley and the environs of the canal warrant special consideration in any future planning because, in their own right, these aspects of this community are both interesting and intriguing to visitors if their awareness could be generally promoted.

Land use in the area northeast of Dunalley as far as Marion Bay Road is mainly devoted to agriculture but there are some residential areas, weekend dwellings and an occasional belt of trees. Although within the Dunalley township there are numerous areas which could accommodate further subdivision, the village is beginning to 'sprawl' to north-east along the shoreline of Blackman Bay. Further linear development of this type must be prevented before the bulk of this northwestern shoreline of Blackman Bay is alienated to all but the weekend retreaters. It is interesting that immediately northeast of Dunalley the small community at Boomer Bay shows a commendable degree of containment. Located on sloping land adjacent to deep water, this community has a high level of dwelling density and is tightly contained in one area. Thus the residents are able to feel very much as if they are living in the country, the surroundings still being predominantly rural and yet the impact of the community has been so localised that the surrounding area has been minimally affected. Furthermore, the requirements for facilities, such as slipways, jetties, etc., are reduced through co-operative sharing whilst the bulk of the shoreline with its quiet coves and rocky headlands remains largely unaltered and is available to residents and visitors alike, for exploration and enjoyment. Many of these advantages will be lost if the northeasterly extension of Dunalley towards Boomer Bay is allowed to continue. Prevention of this trend will enable each community to retain its integrity and special identity while at the same time the loss of the country and coastal atmosphere of the two communities will be avoided.

Further intermittent shack and house building has occurred along the shoreline from Boomer Island to Marion Bay Road but thus far the impact has not been excessive. In this area, Bay Road parallels the foreshore and the greatest problems arise where only a small distance separates the road from the sea. Here one often finds a shack or a boatshed jammed on the narrow strip of land separating the two. The resultant concentrated activity usually has adverse effects on the shoreline and severely reduces visual amenity. Pressure for further development in this area should be accommodated in contained pockets, preferably inland from the roadway, thus avoiding undue impact on the coastal margin.

In general, the wetlands of Area 2 have been little altered but quite undesirable reclamation has been attempted in the vicinity of the junction of Bay Road with Marion Bay Road. Here in complete disregard of the significance of these wetlands to the well-being of the system as a whole, areas of saltmarsh are being privately reclaimed.

In the past, in common with similar practices in Europe, reclamation of wetlands was seen as a relatively cheap and efficient way of gaining further agricultural land. Today, however, enlightened by our understanding of the importance of such lands, there is no place for these primitive and damaging practices.

Marion Bay Road extends across the wetlands to The Long Spit and although there is little doubt that the building of the causeway has interfered with the drainage of the area it has by and large left the saltmarsh and grasslands intact. However, at the eastern extremity of Marion Bay Road, two sadly undesirable impacts occur. The first of these, the cultivation and planting of agricultural crops on dune sand has already been mentioned. The second, the building of a number of weekend shacks on the spit sands warrants special mention. The shacks in question are of a low standard of construction. It is doubtful if any of them would pass normal building regulations inspection. Their fabric and their delapidated, semi-completed nature detracts immensely from the beauty of the area generally and the tone of this delapidation has spread to the vegetation where the formerly substantial tree cover has been almost totally destroyed and excessive burning has radically altered the plant community so that now only a remnant of the former cover exists. The reduced stability this has imparted to the area is a major cause for concern but the reduction in aesthetic appeal is appalling. It would be foolish of course to blame all of this desecration on the shackowners and doubtless much of the general abuse has been done by others. Nevertheless, it is the author's contention that the tone of the area, a tone of environmental abuse and disregard, has been set by the shacks. It can be argued that if an area is seen to be well cared for then by and large the users will respect that fact and minimise their abuse. On the other hand, an area already on the environmental skids, will tend to be further degraded by the users. In some sense this is a measure of their interpretation of the low status that the rest of the community has for the area in question.

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APPENDIX 4

PROFILE AREA 3 AND AREA 4

by R.J. Millington

MARION BAY AND EAST FORESTIER PENINSULA

Areas 3 and 4 extend both north and south of Blackman Bay and together form most of the eastern margin of the study area. They are discussed here together because of their inherent similarities. Both are exposed to weather from the east and both feature high cliffed coastlines for some of their length.

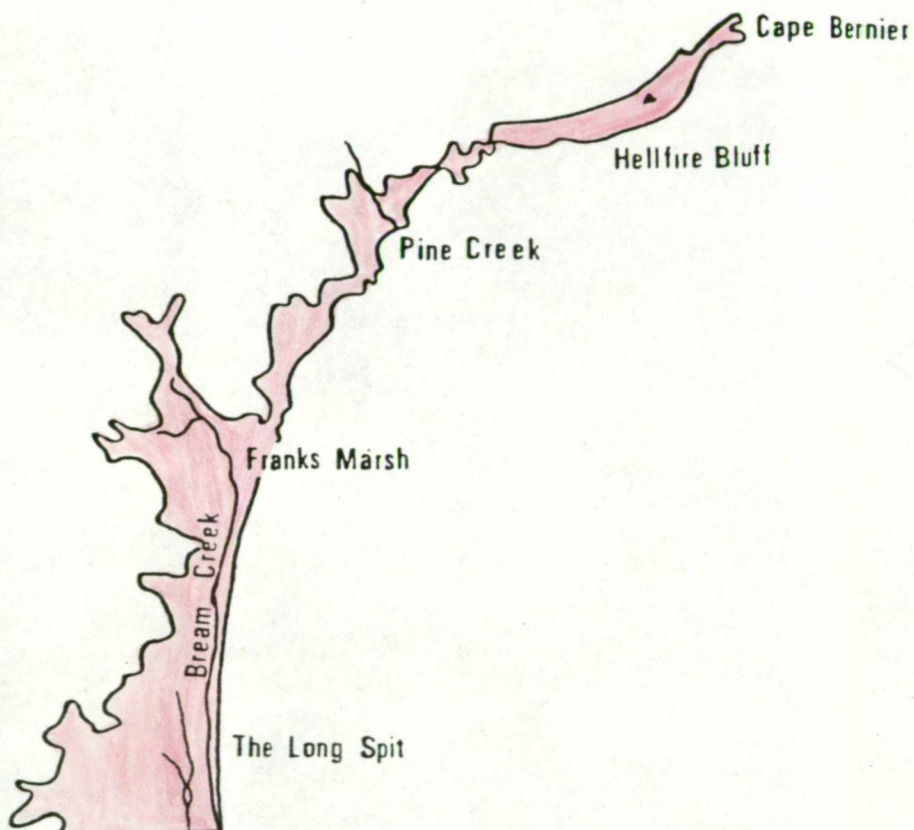
4.1 GEOLOGY

This region is quite different to the low profile coastal features which are characteristic of the rest of the study area. From Lagoon Bay south to Eaglehawk Neck, there are high near vertical coastal cliffs dominated in the south by Macgregor Peak which rises to a height of 591m. In the far north of Area 3, Hellfire Bluff and Cape Bernier together form a spectacular cliff and tallus complex.

The oldest rocks are the Devonian granites which outcrop in the vicinity of Deep Glen Bay and Cape Surville. These granites have been described by Jennings.¹ The region of the outcrop is precipitous and detailed inspection is difficult. Granite is a coarse-grained intrusive igneous rock which crystallises at great depth beneath the surface. The original material into which the granite was intruded is not present in the study area and presumably the granite has been elevated to its present position by tectonic activity and the original cover has been removed by erosion. This granite outcrop is almost certainly part of the East Coast granite complex that occurs extensively in eastern and northeastern Tasmania. Compared to the other outcrops the Forestier Peninsula outcrop is small. The granites of the East Coast were intruded after a period

AREA 3.

MARION BAY



Scale 1:100,000

Fig. 4.1

2.

EAST FORESTIER PENINSULA

Marion Narrows

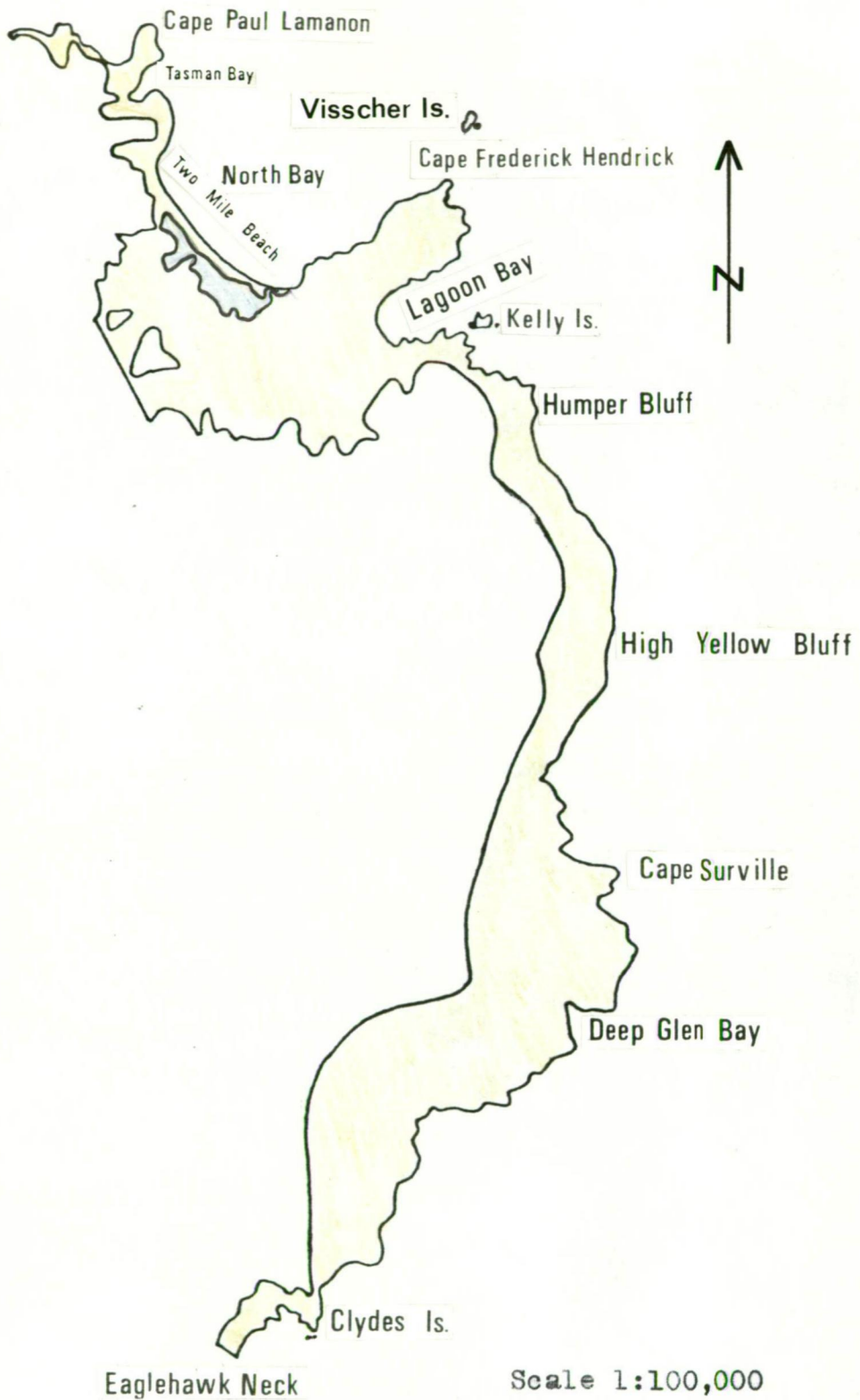


Fig. 4.2

AREA 3.

Geology

MARION BAY

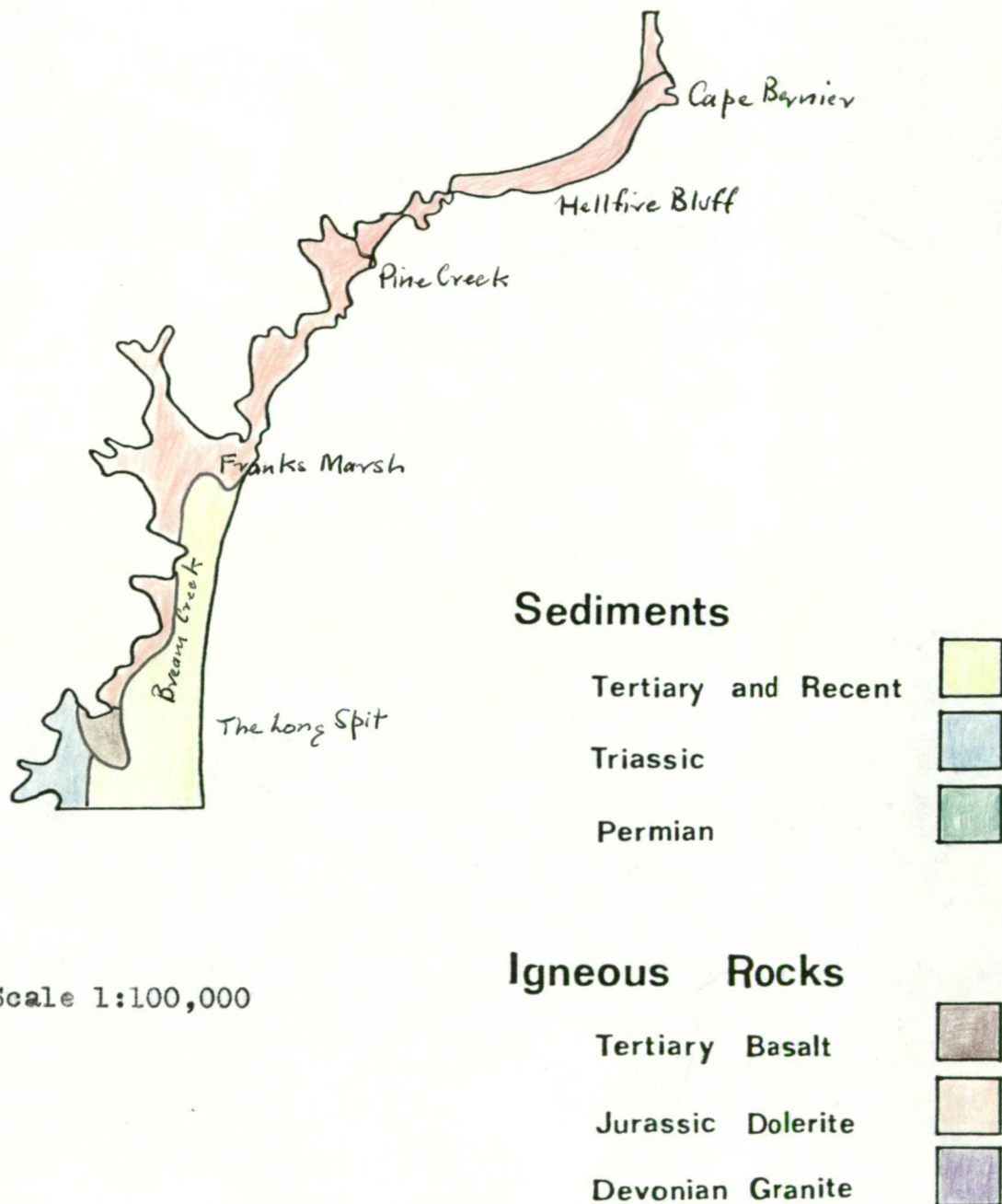


Fig. 4.3

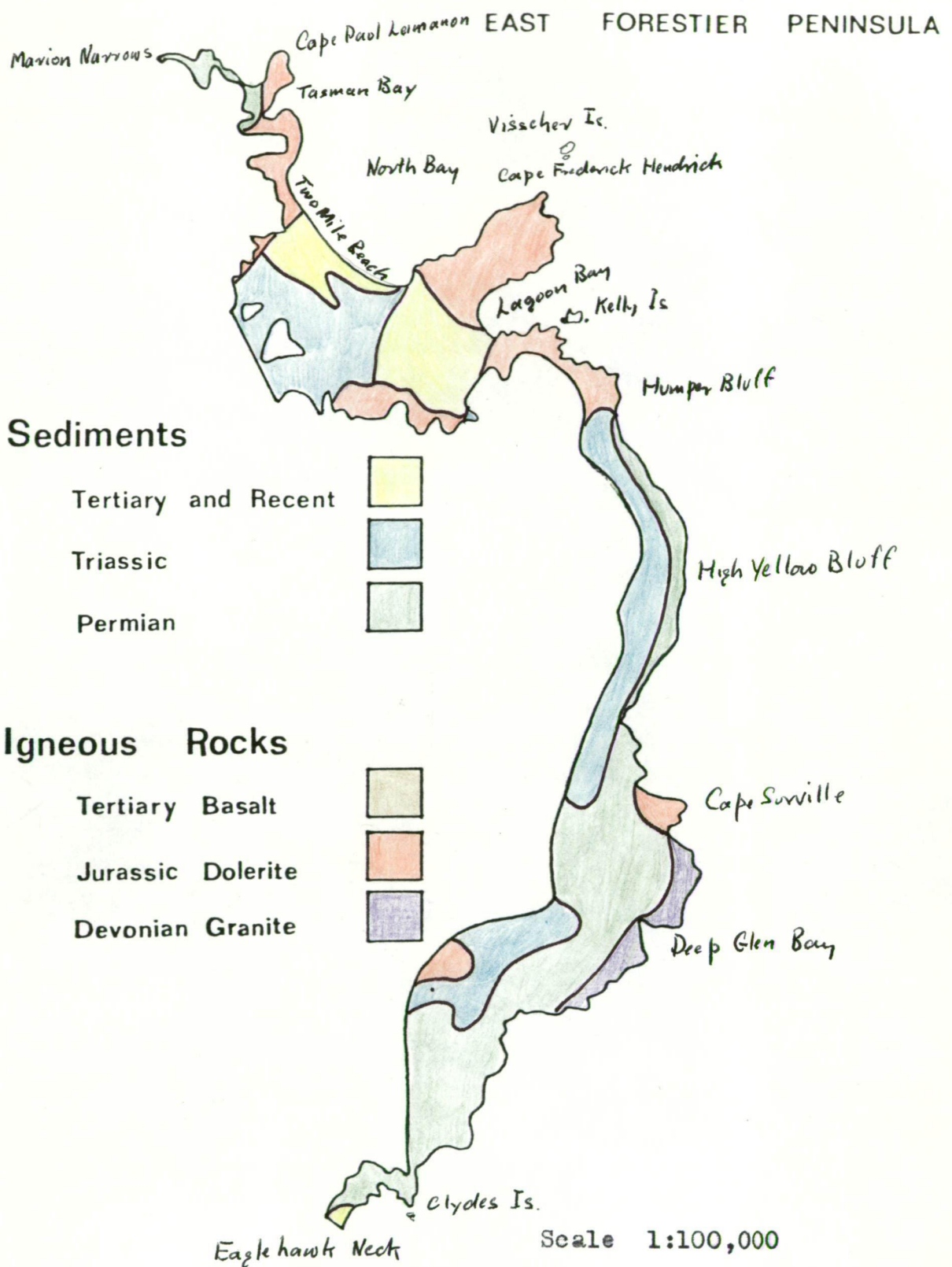


Fig. 4.4

of tectonic activity (Tabberabberan Orogeny).² On Forestier Peninsula the rock is generally grey in colour and often showing significant alteration. The four islets known as The Sisters were inspected by Jennings only from a distance. The inner two, he maintains,³ are definitely granite but the outer two exhibit structures indicative of other rock types. Granite does not occur elsewhere in the study area.

Permian sediments occur extensively throughout Area 4. Immediately northeast of Eaglehawk Neck, the near horizontal Permian sediments form an almost vertical cliff section. The Tesselated Pavement at Eaglehawk Neck is a Permian formation and sediments of this age extend northeastwards discontinuously as far as Humber Bluff. High Yellow Bluff has Permian sediments underlying Triassic. Further Permian sediments occur at the northern extremity of Area 4 where they form the lower cliffs in the vicinity of Gardiners Bay and Watsons Bay near Cape Paul Lamanon. These sediments have been described by Lewis.⁴ Like the Permian sediments elsewhere in the study area they have well defined bedding are horizontal or gently dipping and characteristically contain glacial erratics. In many places they are extensively jointed. At Eaglehawk Neck two sets of joints occur at right angles and where these have been exposed on the wave cut platform, a block-work pattern is revealed, emphasised somewhat by accumulation of secondary minerals along the joint planes. This is the tessellated pavement formation. It is the same Permian sequence that extends south from Eaglehawk Neck along the eastern shore of Tasman Peninsula and gives rise to the rather well known coastline of high cliffs which includes the Devils Kitchen, Tasman's Arch and numerous smaller blowholes. In some respects although little known, the coastal area of Permian sediments to the north of Pirates Bay is even more spectacular.

In common with other parts of the study area, Triassic sediments do occur in Areas 3 and 4. In general in Tasmania the Triassic and Permian systems are conformable or nearly so. Triassic sediments occur above Permian sediments at High Yellow Bluff and at Macgregor Peak. These rocks are part of the same fluviatile and lacustrine sequence referred to in the discussion of Areas 1 and 2. Triassic sediments also outcrop at sea level at the southeastern end of Two Mile Beach and extend across the isthmus behind North Bay to Blackman Bay. The qualities of these sediments have already been discussed, particularly the vulnerability of some sections of the sequence to erosion (Appendix 2).

The Jurassic dolerite which occurs in Area 3 and Area 4 is part of the same intrusive complex that occurs throughout the study area and elsewhere in Tasmania. Here, however, the dolerite forms quite spectacular headland outcrops. Hellfire Bluff and Cape Bernier in the far north of Area 3 are good examples of this. Cape Paul Lamanon near Tasman Bay has a lower profile but the headland still has the columnar features characteristic of vertically jointed dolerite. Further south, Cape Frederick Hendrick and the cliffs near Kelly Island exhibit the higher more fluted appearance for which Cape Pillar, Tasman Island and Cape Raoul have become famous. Cape

Surville is also dolerite. Throughout South East Tasmania the Jurassic dolerite forms a complex intrusive system of sills and dykes predominantly in Permian and Triassic sediments. The situation is complicated by contemporaneous and subsequent faulting so that the contact between the dolerite and the surrounding sediments can be either a fault contact or an intrusive one. Where intrusive contacts occur the sediments are thermally metamorphosed the product being a hornfels. Adjacent to fault contacts the surrounding rocks tend to be shattered and rather more easily eroded.

Tertiary and recent sediments occur at Lagoon Bay and North Bay in Area 4 and on the northern end of The Long Spit in Area 3. The sediments of The Long Spit have already been discussed (Appendix 3), but those which exist behind Two Mile Beach at North Bay and at Lagoon Bay need further comment. The dune system of Two Mile Beach with the enclosed lagoon is one of the few beaches of its type still remaining in Tasmania with both the dunes and the vegetation structure intact.⁵ These sands have the same properties of those of The Long Spit and need the same careful handling. The deposits at North Bay are within the proposed boundary of the 'Tasman Historic Parkland' and its well-being is particularly important from the point of view of the role that it plays in this area. The Lagoon Bay deposits are in general quite stable although the frontal dunes may need some further stabilisation in the future. Similar sediments also occur in the vicinity of Eaglehawk Neck on the shores of Pirates Bay and care is needed here especially as the area is one much more subjected to foot traffic than the other deposits.

A further feature of both Areas 3 and 4 are the tallus slopes. These occur extensively in dolerite on Hellfire Bluff and on Humper Bluff and High Yellow Bluff. They are characterised by a preponderance of boulders, limited or skeletal soils and steep slopes. Being well drained they can only support vegetation if regular high rainfall is available. Furthermore, they are characterised by quite frequent slides and the aerial photographs of High Yellow Bluff reveal evidence of recent substantial slides. Vegetated tallus slopes are particularly sensitive to the activities of man and if their 'stability' is to be maintained care must be taken to ensure that their protective vegetation (in this case wet forest species) is not damaged or reduced in any way.

4.2 BOTANY

The northern reaches of the study area in the vicinity of Hellfire Bluff support tall open eucalypt woodlands with the vegetation structure dependent very much on slope, altitude and aspect. Only limited clearing has occurred north of Eagles Beach and natural vegetation dominates this region although the scrub layer in places shows evidence of heavy grazing and high fire frequency.

On the wetter slopes usually facing east and southeast *Eucalyptus obliqua* and *Eucalyptus globulus* form a co-dominant tree alliance.



Plate 4.1 Penguin tracks across the dunes at Marion Bay are an indication that the area is important to species other than man.



Plate 4.2 Hellfire Bluff and Cape Bernier in the northern reaches of Area 3 have been protected thus far by difficulty of access.

The trees tend to be tall and straight and well in excess of 30m. high although the tree density is low constituting only about 20 percent cover. Beneath the upper canopy, the middle stratum is dense with *Acacia verticillata* and *Bedfordia salicina* the dominant species. Present in the ground layer are *Lomatia tinctoria*, *Epacris impressa*, *Leptospermum scoparium*, *Pteridium aquilinum* and numerous other species generally characteristic of wet eucalypt forest understorey.

The vegetation pattern on the drier slopes is more characteristic of the study area generally. Here the tallest stratum is formed by an alliance between *Eucalyptus obliqua*, *Eucalyptus amygdalina* and *Eucalyptus viminalis*. Beneath this there is an open community with the dominants being *Banksia marginata*, *Acacia stricta* and *Leptospermum scoparium* with occasionally *Exocarpus cupressiformis*. Commonly present at the lowest level is *Pteridium aquilinum* and *Lomatia tinctoria*.

An interesting plant community occurs at Pine Creek in Area 3 where *Eucalyptus globulus*, *Eucalyptus pulchella* and *Eucalyptus obliqua* form the highest stratum over occasional *Callitris rhomboidea* (Oyster Bay Pines). Also present are *Acacia mearnsii*, *Acacia verticillata*, *Dodonaea viscosa* and *Olearia viscosa*. The existence of Oyster Bay Pines in this area is well known and Curtis and Morris⁶ note that they have been recorded as far south as Fortescue Bay on Tasman Peninsula. Oyster Bay Pines also occur west of the beach at Lagoon Bay in Area 4.⁷ *Callitris rhomboidea* is not an exclusively Tasmanian species and has been recorded from the Furneaux Islands, South Australia, Victoria and New South Wales. However, on the East Coast of Tasmania they are not now nearly as abundant as was once the case and within the Sorell Coastal Area they are now rare and appropriate measures need to be taken to ensure their continued existence in this locality. The pines of Pine Creek include a number of mature specimens which are large by comparison with their counterparts in similar stands further north on the East Coast and this fact alone should make them worthy of greater consideration. On the tallus slopes of Hellfire Bluff and Cape Bernier an unusual plant alliance of Oyster Bay Pines (*Callitris rhomboidea*) and Native Laurel (*Anopterus glandulosus*), a Tasmanian endemic, has been recorded.⁸

Nearer the water's edge in these northern most reaches of the study area, *Casuarina stricta* is commonly found just on the seaward side of open stands of *Eucalyptus globulus*. At the beach margins *Ammophila arenaria* is the dominant herb with *Distichlis distichophylla*, *Festuca litteralis*, *Poa poiformis* and *Juncus maritimus* locally abundant. Inland from the beach margins *Lomandra longifolia* and *Pteridium aquilinum* constitute the bulk of the ground cover.

The part of Area 3 south of Eagles Beach is predominantly devoted to agriculture but there are remnants of uncleared land in the vicinity of marshes and creeks and these contain *Acacia mearnsii*, *Acacia verticillata*, *Acacia dealbata*, *Acacia melanoxylon* and more rarely

Exocarpus cupressiformis. On the seaward side of this farmland the stable duneland of the northern end of The Long Spit carries its community of grasses and dominant species are *Ammophila arenaria*, *Festuca littoralis*, *Cakile maritima*. *Acacia sophorae*, *Acacia dealbata* and *Bursaria spinosa* form occasional shrubs and further away from the sea but still on the dunelands *Lomandra longifolia* and *Poa poiformis* occur. By and large this southern part of Area 3 is similar to the northern part of Area 2 except that The Long Spit in Area 3 is rather more stable due largely to its greater age and the fact that Bream Creek introduces a supply of fresh water to the dunes. However, at the seaward edge of the dune, stability is still variable and reliance on *Ammophila arenaria* (Marram grass) as a pioneer species is high. For much of its northern reaches The Long Spit tree community has suffered the same fate as the community to the south (See Section 3.2). Most of the trees are dead or dying and as mentioned earlier this will reduce stability. Behind the dune system are the northern limits of the wetlands which have already been discussed in Area 2 (Section 3.2).

The botany of Area 4, the rugged east coast of Forestier Peninsula has because of difficulty of access, been subjected to only limited assessment but even so the picture emerging is an interesting one. Detailed collections were made in the northern reaches of Area 4 in the vicinity of Lagoon Bay and Swan Salt Lagoon. Isolated collections were also made near Cape Surville and Deep Glen Bay.

At Swan Salt Lagoon a well developed marsupial lawn exists between the dunes and the lagoon waters. Subject to intermittent inundation the area of 'lawn' available for terrestrial grazing varies considerably from season to season. The 'lawn' features a variety of herbs including *Cotula longipes*, *Hydrocotyle muscosa*, *Lobelia alata* and a species of *Selliera*. In the wetter areas the alga *Enteromorpha intestinalis* is often frequent. The back dune vegetation which abuts the 'marsupial lawn' includes *Melaleuca squarrosa*, *Acacia melanoxylon*, *Leptospermum scoparium* and *Banksia marginata*. Indeed the entire dune system of Two Mile Beach is quite unusual because it is entirely stabilised by native flora, the introduced marram grass (*Ammophila arenaria*) being almost entirely absent. The seaward face of the dune supports an alliance of *Carpobrotus rossii* and *Correa alba* with occasional *Cakile edulenta* and *Juncus maritimus* while the more exposed seaward areas are dominated by *Correa alba* and *Banksia marginata*, with occasional concentrations of *Helichrysum rosmarinifolium*. This biological community established as it is on a dynamic dune system is quite unique within the study area and may well be unique within Tasmania. In addition the fact that it constitutes the margin of a relatively untouched lagoonal system supporting a significant population of native animals and birds makes it an area worthy of careful deliberation. The fact that the area has strong historical associations (See Chapter 3) adds to such arguments.

In the vicinity of Lagoon Bay, on the drained flats behind the dunes and in the bushland to the southeast a number of introduced exotics occur presumably related to the agricultural activities to which the

area has been subjected. However, by far the most interesting plant community sampled in Area 4 occurs on the small rocky headland adjacent to Kelly Island at the southeastern end of Lagoon Bay. Here there is a low turf made up of a variety of herbs. Dr. J.E.S. Townrow who visited the area and identified these specimens wrote: (See Appendix 5)

"The headland is particularly rich in interesting species and is worthy of conservation as a beautiful example of a rocky exposed coastal ecosystem. The rarer native species include 'Microtis biloba' (Orchidaceae) and 'Centrolepis aristata' (Centrolepidaceae). Many of the others are typically found together in this turf association but more rarely apart from it, e.g. 'Tillaea sieberiana' (Crassulaceae), 'Parrentucellia latifolia' (Scrophulariaceae), 'Millotia tenuifolia' and 'Poranthera microphylla' (both compositae)."

Further south along this eastern margin of Forestier Peninsula the vegetation develops a quality more akin to rainforest or rainforest understorey. There is often a sharp line of demarcation along the ridge line with wetter forest or scrub species on the east facing slopes and dryer forest species on the west facing slopes. This line of demarcation probably is a direct result of the interaction of aspect and wild fires. The east facing slope clearly receives a higher rainfall. It is not unusual for example to see the higher cliffs and ridges shrouded in mist during fine sunny days when the moist air of the sea breeze rises up over the land. This phenomenon alone maintains the moisture on these eastern slopes despite their precipitous well drained topography. Wild fires on the other hand advancing predominantly from the north and west would tend to die on the eastern most ridges and be unable to penetrate down the moist slopes towards the sea. At Cape Surville short steep slopes exist above near vertical cliffs. These slopes support quite large specimens of sassafras (*Atherosperma moschatum*) with ferns *Rumohra adiantiformis*, *Microsorium diversifolium* in addition to the common manfern. All of these species are essentially rainforest types as are the others collected on this coast and recorded in the Appendix 5. Indeed the slopes of Mount Macgregor support a rich wet eucalypt forest community. In 1950 celery top pine (*Phyllocladus aspleniifolius*) was recorded on these slopes⁹ and although this may not have been in the study area it is indicative of the type of community the area supports. Celery top pine also occurs in similar situations on the eastern coastal gulleys of Tasman Peninsula.¹⁰ The combination of high rainfall and steep slopes gives this country an appealing quality. The heavy vegetation of the slopes often extends down over the near vertical cliffs like a natural hanging garden draped over the underlying rock.

4.3 HISTORY

Chapter 3 deals with the significance of this coastline from the point of view of the State's early history. There seems little doubt that the region from Lagoon Bay, north to the vicinity of The Long Spit and including parts of Blackman Bay are of the greatest historical importance. There would be few places where the site of European man's first encounter with a new world country is still preserved in its pristine state almost 350 years later. But even that is not all. The area is checkered with the names of later explorers. People such as Marion du Fresne, Baudin, Peron, Freycinet and Cox, all came to the area after Tasman. For the Tasmanian aborigines the region had a macabre quality for, in a sense, their first and fatal contact with Europeans on the clean white sands of Two Mile Beach set the tone for their future demise. Macabre but significant nevertheless. Indeed from the point of view of a race of people that no longer exist and for the Europeans who find only themselves to blame, Two Mile Beach must rank as one of the most significant historical sites in Tasmania. But the fate of the Tasmanian aborigine, the loss of all the full blood in the 30 years following settlement is now no longer a local phenomenon but ranks as one of the most remarkable cases of 'genocide' ever recorded in the world.¹¹ The Two Mile Beach site on this basis alone must be considered at least from a national perspective but it might be more realistic to say that it is of world significance as the place where the first physical step of a unique and sad anthropological event took place.

Another point concerning the historical significance of the area is the way that people might be permitted to experience it. These matters are dealt with in Chapter 3 but one point needs to be made strongly. The area is at present so significant because it is unspoilt. It is as it was when the aborigines alone lived here; it is as it was when Tasman anchored his two ships near Vijscher Island; it is as it was when Marion du Fresne confronted the natives on Two Mile Beach on that fatal day. Thus any use to which it is put must at all costs preserve the unadulterated nature of the site. For this reason there is no place for vehicles of any kind and no place for roads, paths, signs, etc. The author would envisage that visitor access to the area could be achieved by three means. The most suitable and perhaps the most appropriate means of access would be by boat from Dunally. Such an excursion would provide tourists with a view of the landscape and allow them to in some way experience the feelings that Tasman himself must have felt in 1642. It would enable a number of areas including Marion Narrows, Tasman Bay, Two Mile Beach and Blackman Bay which are widely spaced to be easily visited and would provide an exciting and pleasant interlude for most Peninsula travellers. Alternatively access to the area could be on foot from the private Blackman Bay Road in the vicinity of Blackman Plains or Lagoon Bay or from Little Chinaman Bay after crossing Marion Narrows by boat. Such access would require rigid restriction of vehicles onto the fringes of the area and would involve walking some distance through a suitable buffer zone before entering the area proper. A third means of access may be provided by light aircraft which can land at Lagoon Bay. It is only by adopting such a rigid



Plate 4.3 The dune system of Two Mile Beach is both unique and sensitive and requires expert management for its continued well-being.



Plate 4.4 Fishing boats at Lagoon Bay. The fishing industry along these shores depends on the wise management of coastal land.

strategy of control that preservation of the area can be ensured. An advantage of allowing for a number of different means of access is that such a system will enable people of all kinds, not just the physically fit, to enjoy the area.

4.4. THE IMPACT TO DATE

These two areas together have been minimally affected by the presence of European man. Partly this is a function of the rugged terrain and partly it is a result of the fact that access to the region has in the past been quite limited. Access to Area 3 can only be obtained by travelling through the private grounds of Marchweil estate or by approaching the area from farmland in the vicinity of Rheban north of the study area. The access road is poor and at times it may become impassable. Throughout the entire length of Area 4 only four access roads exist. In the far south the area is cut by the Arthur Highway at Eaglehawk Neck. In the central region of Forestier Peninsula, Richardsons Road and Schofield's Road provide four wheel drive access to the coast near Cape Surville and Deep Glen Creek respectively. In the north of Area 4 the Blackman Bay Road passes through private property to Lagoon Bay. With the exception of Eaglehawk Neck each of the access roads is primitive and restricted in their usage and as such the access provided is minimal.

The east coast of Forestier Peninsula is precipitous and rugged. Dominated in the south by Mt. Macgregor the southern extremity of Area 4 has almost vertical cliffs of Permian sediments which form abrupt edges to the steep heavily vegetated slopes which rise to the ridge line immediately inland. North towards Deep Glen Bay and Cape Surville the cliff line tends to be more irregular and here and there steep slopes draped with vegetation extend to sea level. In this region of Forestier Peninsula the evidence of man is singularly lacking and if future controls are adequate it should remain so. There is evidence of logging activities west of the ridge line at High Yellow Bluff and the access road to this area has recently been up-graded by the Forestry Commission. Nevertheless, to the east of the ridgeline the area retains that air of remoteness characteristic of wilderness areas.

The northern region of Area 4 does show definite signs of man's activities. In the vicinity of Lagoon Bay where the vehicular track comes closest to the shore agricultural activities dating back to the colony's earliest days have moulded parts of the landscape. During the convict era cattle were landed at Lagoon Bay for fattening before being walked to Port Arthur for slaughter.¹² The old canals which were dug by convict labour to drain the lagoon are still visible today and the cleared land provides good grazing for farming activities. There is a hut here and the area has the traditional artifacts of farming, fences, stockyards, gates and the like, but the clearing has been carried out in a sensible manner and over a long period of time, leaving belts of trees and extensive tracks of bush-

land unaffected so that this rural segment does not intrude into the natural landscape in a harsh and unpleasant way. Rather it blends in a pleasing and satisfying manner with its surroundings such that Lagoon Bay itself appears as a slightly civilised focus snugly tucked in between Cape Frederick Hendrick to the north and Humber Bluff and rugged Kelly Island to the south. The entrance to Lagoon Bay itself is strewn with rocky headlands, numerous small islands and extensive patches of kelp. Immediately inland from Lagoon Bay the landing ground for light aircraft has been constructed.

Northwards beyond Cape Frederick Hendrick the coastline is less spectacular but it does revert to that untouched quality characteristic of the rugged area to the south. Here there are beautiful bays and inlets separated by low rocky promontories. Two Mile Beach is a long unblemished stretch of sand. The dune system behind it has its natural vegetation system still intact and the lagoon still in its pristine state harbours an abundance of wildlife. Whale bones litter the beach and at the time of the author's most recent visit, the sands near the entrance to the lagoon revealed an abundance of animal tracks. At this time the author counted in one panoramic sweep of the lagoon more than 180 black swan and there were numerous other birds of wetland or oceanic type. This northeastern end of Forestier Peninsula has all the attributes necessary for the establishment of a State historic park of national significance.

Across Marion Narrows, beyond the northern extremity of Area 4 stretch the unbroken sands of Marion Beach, pristine and uncluttered for almost eight kilometres. The northern half of this beach constitutes the southern part of Area 3. This area too has been protected through limited access and as such the major impact has been land clearing in the vicinity of Marchweil Marsh and Franks Marsh. Grazing and firing have had a real influence on the countryside to the north but in general the effects have not been severe. The northerly reaches of this region include some of the most unspoiled parts of the Sorell coastline. North of Franks Marsh the spaciousness of Marion Beach is lost in a sequence of small rocky headlands and beautiful unadulterated little coves, each with a charm all its own. They extend northwards to Blowhole Point which nestles under the high dolerite cliffs and tallus of Hellfire Bluff. Here there is rugged beauty which contrasts markedly with the quiet inlets a few hundred yards to the south. Beyond Hellfire Bluff is Cape Bernier and further still across the sea lies Maria Island. The backdrop to all of this is formed by the tall eucalypt forests immediately inland and the rural mosaic of Bream Creek further to the south. In short Area 3 with its beaches, its forests, its headlands and rural backdrop constitutes a resource incorporating all those features alluded to in Chapter 1. It has diversity of moods and habitats, a diversity of uses and a variety of aesthetic appeal. Great care will need to be taken to ensure that it is not squandered or destroyed.

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- 3 JENNINGS, D.J., 1974; *op. cit.*
- 4 LEWIS, A.N., 1925; Notes on Cliff Section Near Cape Paul
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- 5 The Tasmanian Conservation Trust Inc. (Macartney, P.N. -
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- 6 CURTIS, W.M. and MORRIS, D.L., 1975 (2nd ed.); *The Students*
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- 7 Personal communication with T. Dunbabbinn, local resident.
- 8 The qualities of this particular plant community were noted
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to the Director General of Lands concerning the proposed
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- 9 AVES, K., 1951; Camp at Eaglehawk Neck, *The Tasmanian*
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- 10 Personal communication with J. Russell, Centre for Environ-
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- 11 This point was made by Dr. Rhys-Jones in the film, *The Last*
Tasmanians.
- 12 PETERSON, F.A., 1948; Botany of Wilmot Harbour, *The*
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APPENDIX 5

prepared by J.E.S. Townrow

This appendix contains botanical data gathered during field trips. The locations referred to are indicated by numbers which are recorded on the attached map, Fig. 5.1.

<u>LOCATION 1.</u>	<u>DORMAN POINT S.E. OF CONNELLYS MARSH</u>		
	Sheet 8412 50.5/59.5		
<u>Ecosystem</u>	<u>Stable fore-dune</u>		
<u>Tallest stratum</u>	<u>Very sparse open and low woodland</u>		
<u>Alliance</u>	less than 10% cover <i>Eucalyptus viminalis</i> (Manna gum)		
	10%	"	"
			10-30m
			5-10m
<u>Middle stratum</u>	<u>Very sparse tall open shrubland</u>		
<u>Alliance</u>			
less than	<i>Acacia dealbata</i> (Silver wattle)		2- 8m
10% cover	<i>Exocarpus cupressiformis</i> (Native cherry)		
<u>Lowest stratum</u>	<u>Closed tussock grassland</u> 0-2m		
<u>Alliance</u>	Hummock grass <i>Poa rodwayi</i> 10-30%		
	Herbs:		
	<i>Pteridium aquilinum</i> Bracken	-	patchy up to 70%
	<i>Aotus ericoides</i> Golden pea	-	frequent
	<i>Scirpus nodosus</i> Knobbly Club rush		"
	<i>Epacris impressa</i> Heath	-	occasional
	<i>Dichelachne crinita</i> Longhair plume grass		"
	<i>Stipa stiposa</i> Speargrass		"
	<i>Themeda australis</i> Kangaroo grass		"
	<i>Helichrysum apiculatum</i> small patches		"

Notes: The area, with light sandy soils, is subject to strong westerly winds and frequent burning. The headland where grazed has extensive patches of *Lomandra longifolia* (sagg).

BOTANICAL SURVEY

Approximate locations only.

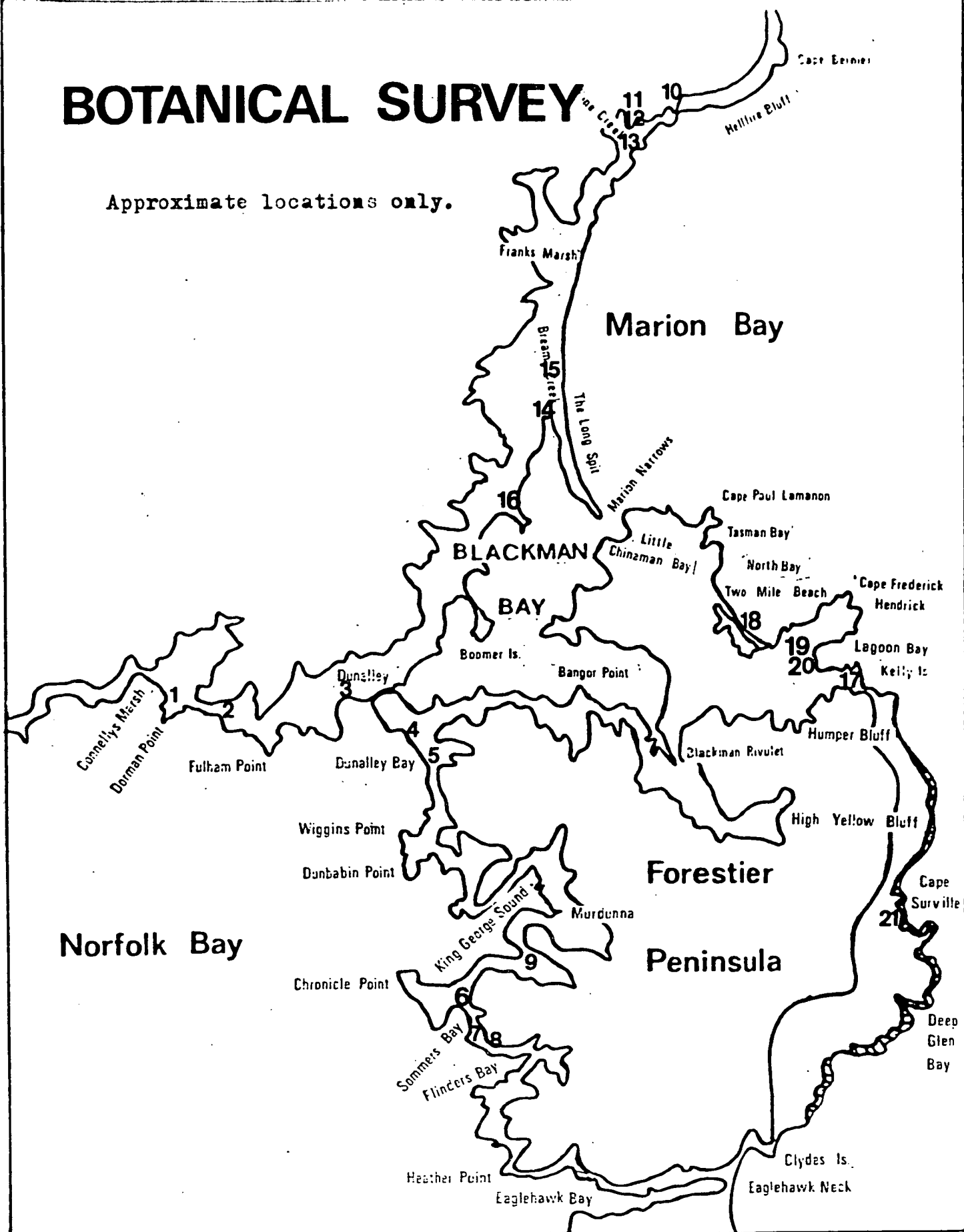


Fig. 5.1

<u>LOCATION 2.</u>		<u>FULHAM ROAD</u>	
		Sheet 8412 50.5/60.2	
<u>Ecosystem</u>		<u>Roadside banks bordering grazed pasture</u>	
<u>Alliance (a)</u>		<u>Drier stretches</u>	
<u>Trees</u>		2-8m	
		<i>Eucalyptus ovata</i> (Black gum)	
		<i>Eucalyptus pulchella</i> (White peppermint)	
less than		<i>Acacia melanoxylon</i> (Blackwood)	
10% cover		<i>Casurina littoralis</i> (Bull oak)	
		<i>Exocarpus cupressiformis</i> (Native cherry)	
		<i>Acacia dealbata</i> (Silver wattle)	
<u>Herbs</u>		0-1m	
		<i>Lomandra longifolia</i> (Sagg)	
30-70%		<i>Themeda australis</i> (Kangaroo grass)	
cover		<i>Dactylis glomerata</i> (Cocksfoot grass)	
		<i>Senecio linearifolius</i> (Fireweed)	
	(b)	<u>Wetter rises</u>	
<u>Trees/Shrubs</u>		2-8m	
		<i>Acacia verticillata</i> (Prickly mimosa)	
		<i>Dodonaea viscosa</i> (Native hop)	
		<i>Casuarina stricta</i> (She-oak)	

<u>LOCATION 3.</u>		<u>FULHAM ROAD</u>	
		Sheet 8412 50.8/65.1	
<u>Ecosystem</u>		<u>Low mudbank between stream and road</u>	
<u>Formation</u>		<u>Mid-dense tussock grassland</u> 0-3m	
<u>Alliance</u>			
each 30-70%		<i>Suaeda australis</i> (Australian Herbaceous Seablite)	
cover		<i>Stipa stipoides</i> (Coastal speargrass)	
each up to		<i>Plantago coronopus</i> (Buck's-horn plantain)	
30% cover		<i>Distichlis distichophylla</i> (Australian Saltgrass)	

<u>LOCATION 4.</u>		<u>DUNALLEY BEACH</u>	
		Sheet 8412 49.5/66.7	
<u>Ecosystem</u>		<u>Stable fore-dune</u>	
<u>Tallest stratum</u>		<u>Low woodland</u> 10-30% cover	
Trees up to		<i>Banksia marginata</i>	- abundant
5m		<i>Exocarpus cupressiformis</i>	- occasional
<u>Middle stratum</u>		<u>Low shrubland</u> 10-30% cover	
		<i>Correa alba</i>	- frequent
Shrubs 0-2m		<i>Banksia marginata</i>	- abundant
		<i>Rosa rubiginosa</i>	- occasional

<u>Lowest stratum</u>	<u>Tussock/sedge land 30-70% cover</u>	
	<i>Lomandra longifolia</i> (Sagg)	- Codominant
	<i>Lepyrodia tasmanica</i> (Branching Scale Rush)	"
	<i>Ammophila arenaria</i> (Marram grass)	- at sand edge
	<i>Carpobrotus rossii</i> (Pigface)	- locally abundant
	<i>Acaena novae-zelandiae</i> (Bidgy-Widgy)	"
0-1m }	<i>Poa poiiformis</i> (coastal poa)	- frequent
	<i>Danthonia</i> spp. (Wallaby grasses)	- frequent towards
	<i>Agropyron scabrum</i> (Common Wheat grass)	the road
	<i>Cakile edentula</i> (American Sea rocket)	frequent on
	<i>Beta maritima</i> (Wild beet)	sand above
		the strandline

LOCATION 5. SOUTH EAST END OF DUNALLEY BEACH

<u>Ecosystem</u>	<u>Stabilised bank on rising ground</u>	
<u>Formation</u>	<u>Grass/Herbland 0-1m with 30-70% cover</u>	
(a) <u>Lowest area</u>	<i>Distichlis distichophylla</i>	- frequent
<u>Alliance</u>	<i>Themeda australis</i> (Australian Saltgrass)	abundant
	<i>Poa rodwayi</i> (Tussock poa)	- "
	<i>Lissanthe strigosa</i> (Peach Berry)	- locally abundant
(b) <u>On the slope</u>		
Occasional		
trees less	<i>Casuarina stricta</i> about 8m	
than 10%	<i>Eucalyptus ovata</i> 3-5m	
cover		
plus Grass/herbland 0-1m 30-70% cover		
<u>Alliance</u>	<i>Themeda australis</i>	- codominant
	<i>Poa rodwayi</i>	"
	<i>Tetrarrhena distichophylla</i>	- frequent
	<i>Briza minor</i> (Lesser Quaking grass)	"
	<i>Lomandra longifolia</i>	- occasional
	<i>Lepidosperma laterale</i>	"
	<i>Leptorrhynchus squamatus</i>	"
	<i>Bursaria spinosa</i>	"
	<i>Wahlenbergia consimilis</i>	-occasional - rare
	<i>Gnaphalium candidissimum</i>	- locally abundant
		in patches
	<i>Agrostis tenuis</i> (Brown Top bent)	- locally frequent
		growing out
		across puddles
(c) <u>Topping the</u>		
<u>rise:</u>		
<u>Tallest stratum</u>	<u>Tall open-shrubland 2-8m</u>	

<u>Alliance</u>	<i>Banksia marginata</i>		
less than	<i>Eucalyptus amygdalina</i> (Black peppermint)		
10% cover	<i>Eucalyptus viminalis</i>		
	<i>Casuarina stricta</i> - concentrated on the hadland		
<u>Lowest stratum</u>	<u>Mid-dense grass/herbland 0-0.5m with 30-70% cover</u>		
<u>Alliance</u>	<i>Poa sieberana</i>	-	codominant
	<i>Themeda australis</i>		"
	<i>Tetrarrhena distichophylla</i>	-	grasses - frequent
	<i>Danthonia caespitosa</i>		"
	<i>Stipa pubinodis</i>		"
	<i>Deyeuxia quadriseta</i>		"
	<i>Epacris impressa</i> red, pink and white forms		
	<i>Goodenia lanata</i> (Native primrose)		
	<i>Hibbertia riparia</i> (Guinea flower)		
	<i>Senecio quadridentatus</i> (Cotton fireweed)		
	<i>Kennedia prostrata</i> (Running postman)		
	<i>Acacia myrtifolia</i>		
	<i>Briza minor</i>		
	<i>Stipa stiposa</i>	-	occasional
			mostly prostrate herbs

Notes: Typical unimproved lightly grazed native pasture, the headland carrying a typical cover tall open shrubland (*Casuarina*) with a greater abundance of native herb species.

LOCATION 6. SOMMERS BAY AND ENVIRONS

Sheet 8412 41-42/67-68

Damp area beside boat shed (mid-beach)

<u>Ecosystem</u>	<u>Fern gully</u>		
<u>Formation</u>	Closed scrub		
<u>Highest stratum</u>	<u>2-4m 30-50% cover</u>		
<u>Alliance</u>	<i>Leptospermum scoparium</i> (Manuka)	-	abundant
	<i>Melaleuca squarrosa</i>		"
	<i>Acacia verticillata</i>		"
	<i>Banksia marginata</i>	-	frequent
	<i>Pomaderris apetala elliptica</i>		"
<u>Lowest stratum</u>	<u>0-1.5m fern land 30-70%</u>		
<u>Alliance</u>	<i>Gleichenia microphylla</i>	-	dominant
	<i>Pteridium aquilinum</i>	-	locally abundant
	<i>Phragmites communis</i> (Common reed)	-	frequent
	<i>Gahnia psittacorum</i> (Cutting grass)		"
	<i>Juncus maritimus</i>		"
	<i>Scirpus nodosus</i>		"
	<i>Lomandra longifolia</i> (Sagg)		"
	<i>Dianella tasmanica</i> (Sagg)		"
	<i>Leucopogon parviflorus</i>	next to beach	"
	<i>Billardiera longiflora</i>	-	occasional

LOCATION 7. WOODED GULLY S.E. END OF SOMMERS BAY AT ROAD END

<u>Formation</u>	Tall open forest		
<u>Tallest stratum</u>			
<u>Trees</u> 10-30m	<i>Eucalyptus viminalis</i> (Manna gum)		
	<i>Eucalyptus globulus</i> (Blue gum)		
30-70% cover	<i>Eucalyptus obliqua</i> (Stringy bark)		
<u>Middle stratum</u>			
<u>Shrubs</u> 3- 5m	<i>Casuarina stricta</i>	-	frequent
	<i>Leptospermum scoparium</i>		"
10-30% cover	<i>Pimelia nivea</i>		"
	<i>Banksia marginata</i>	-	occasional
	<i>Helichrysum rosmarinifolium</i>		"
<u>Shrubs</u> 0- 2m	<i>Hibbertia stricta</i>	-	frequent
	<i>Epacris impressa</i>		"
less than			
10% cover	<i>Leucopogon virgatus</i>	-	occasional
	<i>Exocarpus cupressiformis</i>		"
<u>Lowest stratum</u>			
<u>Herbs</u> 0- 1m	<i>Astroloma humifusum</i> (Native cranberry)		frequent
	<i>Lomandra longifolia</i>		"
less than			
10% cover	<i>Adiantum aethiopicum</i> (Maidenhair fern)		"
	<i>Drosera auriculata</i>	-	rare
<u>Grasses</u> 0-1m	<i>Danthonia setacea</i>	-	occasional
	<i>Themeda australis</i>		"
less than			
10% cover	<i>Agrostis avenacea</i>		"
	<i>Tetrarrhena distichophylla</i>		"
	<i>Stipa pubinodis</i>		"

Notes: There were no signs of recent burning though very old blackened areas on stringy bark trunks indicated that fire had been present in the past.

LOCATION 8 THE POINT BETWEEN FLINDERS BAY AND SOMMERS BAY

<u>Formation</u>	Tall woodland 10-30% cover		
<u>Tallest stratum</u>			
<u>Trees</u> >30m	<i>Eucalyptus globulus</i>	-	dominant
about 30% cover	<i>Eucalyptus obliqua</i>	-	frequent
<u>Middle stratum</u>			
<u>Trees</u> 5-10m	<i>Casuarina stricta</i>	-	locally dominant
patchy about	<i>Banksia marginata</i>	-	occasional
50% cover	<i>Eucalyptus pulchella</i>		"
<u>Shrubs</u>	<i>Helichrysum rosmarinifolium</i>	-	frequent
about 3m	<i>Dodonaea viscosa</i>	-	occasional
	<i>Bursaria spinosa</i>		"
	<i>Leucopogon parviflorus</i>		"

<u>Lowest stratum</u>	
<u>Grasses/Herbs</u>	<i>Pteridium aquilinum</i> - frequent in unburnt areas
0-2m	<i>Poa sieberana</i> - frequent - occasional
10-30% cover	<i>Danthonia pilosa</i> - frequent
	<i>Danthonia caespitosa</i> "
	<i>Aira elegans</i> "
	<i>Astroloma humifusum</i> - occasional
	<i>Pinelia nivea</i> "
	<i>Centaurium australe</i> "
	<i>Dianella tasmanica</i> "
	<i>Microleana stipoides</i> "
	<i>Themeda australis</i> "
	<i>Exocarpus strictus</i> "

Notes: This Point carries the typical cover of *Casuarina* to the seaward side of the headland with *Eucalyptus* behind. There was evidence of burning within the last 2 years.

LOCATION 9. DUCK CREEK N.E. OF SOMMERS BAY

<u>South side</u>	<u>Damper area</u>		
<u>Shrubs/Ferns</u>	<i>Gleichenia microphylla</i>	-	abundant
4-5m	<i>Melaleuca squarrosa</i>	-	frequent
70-100% cover	<i>Eucalyptus linearis</i>	-	occasional
	<i>Casuarina stricta</i>		"

<u>North side</u>	<u>Drier area</u>		
<u>Shrubs</u>	<i>Banksia marginata</i>		
0 to 4m	<i>Acacia melanoxylon</i> (Blackwood)		
	<i>Acacia verticillata</i>		
30-70% cover			

<u>Topping rise to North</u>	<u>Drier and more exposed area</u>		
<u>Trees</u> 5-10m	<i>Eucalyptus obliqua</i>	-	frequent
10-30% cover			
<u>Shrubs</u> 2-5m	<i>Casuarina monilifera</i>	-	occasional
less than 10% cover	<i>Acacia botrycephala</i>		
<u>Ferns</u> 0-1m	<i>Pteridium aquilinum</i>	-	frequent
10-30% cover			

LOCATION 10. DUE NORTH OF BLOWHOLE POINT, WEST OF HELLFIRE BLUFF
Sheet 8412 67.30/73.90

<u>Ecosystem</u>	<u>Wetter slopes facing East and South East</u>
<u>Formation</u>	<u>Tall open woodland (wet sclerophyll)</u>

<u>Tallest stratum</u>	<u>Trees over 30m, and 10-30m sparse 10-30% cover</u>		
<u>Alliance</u>	<i>Eucalyptus obliqua</i>	-	codominant
	<i>Eucalyptus globulus</i>		"
<u>Middle stratum</u>	<u>Shrubs 2-8m, 70-100% cover</u>		
<u>Alliance</u>	<i>Acacia verticillata</i>	-	abundant
	<i>Bedfordia salicina</i>	-frequent	- abundant
	<i>Eucalyptus pulchella</i>	-	occasional
	<i>Bursaria spinosa</i>		"
	<i>Goodenia ovata</i>		"
	<i>Olearia viscosa</i>		"
	<i>Helichrysum rosmarinifolium</i>		"
<u>Lowest stratum</u>	<u>Shrubs 0-2m (100% cover at about 3m)</u>		
<u>Alliance</u>	<i>Lomatia tinctoria</i>	-	occasional
	<i>Epacris impressa</i>		"
	<i>Leptospermum scoparium</i>		"
	<i>Pteridium aquilinum</i>		"
	<i>Lepidosperma laterala</i>		"
	<i>Astroloma humifusum</i>		"
	<i>Olearia viscosa</i>		"
	<i>Callistemon pallidus</i>		"
	<i>Helichrysum backhousii</i>		"
	<i>Banksia marginata</i>	-	rare
<u>Ground cover</u>	<u>Moss and liverwort</u>		
70-100%			

LOCATION 11. DUE NORTH OF BLOWHOLE POINT, WEST OF HELLFIRE BLUFF

<u>Ecosystem</u>	<u>Drier slopes facing South (approaching Pine Creek)</u>		
<u>Tallest stratum</u>	<u>Trees over 30m 10-30% cover</u>		
<u>Alliance</u>	<i>Eucalyptus amygdalina</i>	-frequent	- abundant
	<i>Eucalyptus obliqua</i>	-	frequent
	<i>Eucalyptus viminalis</i>		"
<u>Middle stratum</u>	<u>2-8m less than 10% cover</u>		
<u>Alliance</u>	<i>Banksia marginata</i>	-	frequent
	<i>Acacia stricta</i>		"
	<i>Leptospermum scoparium</i>		"
	<i>Exocarpus cupressiformis</i>	-	occasional
<u>Lowest stratum</u>	<u>0-2m 10-30% cover</u>		
<u>Alliance</u>	<i>Pteridium aquilinum</i>	-	frequent
	<i>Lomatia tinctoria</i>	-frequent	- abundant

LOCATION 12. DUE NORTH OF BLOWHOLE POINT, WEST OF HELLFIRE BLUFF

<u>Ecosystem</u>	<u>River banks - Pine Creek</u>		
<u>Formation</u>	Very sparse, tall open woodland		
<u>Tallest stratum</u>	(a) <u>Trees over 30m, less than 10% cover</u>		
<u>Alliance</u>	<i>Eucalyptus obliqua</i>	-	occasional
	<i>Eucalyptus pulchella</i>		"
	<i>Eucalyptus globulus</i>		"
	(b) <u>Trees 10-30m</u>		
	<i>Callitris rhomboidea</i> (Oyster Bay pine)		small grove and scattered trees
	<i>Eucalyptus obliqua</i>	-	occasional
	<i>Exocarpus cupressiformis</i>		"
<u>Middle stratum</u>	(a) <u>Shrubs 2-8m, 10-30% cover</u>		
	<i>Acacia mearnsii</i> (Black wattle)	-	frequent
	<i>Acacia verticillata</i>		"
	<i>Dodonaea viscosa</i>		"
	<i>Olearia viscosa</i>		"
	<i>Helichrysium backhousii</i>		"
	<i>Goodenia ovata</i>		"
	<i>Exocarpus cupressiformis</i>	-	occasional
	(b) <u>Shrubs 0-2m</u>		
	<i>Leptospermum scoparium</i>	-	occasional
	<i>Goodenia ovata</i>		"
	<i>Helichrysium backhousii</i>		"
	<i>Dodonaea viscosa</i>		"
by	<i>Phebalium squameum</i> (Lancewood)	-	frequent
river}	ferns} <i>Pteridium aquilinum</i> (Bracken)	occasional -	frequent
	<i>Blechnum watsii</i> (Hardwater fern)	-	occasional
bed	<i>Gahnia psittacorum</i>	-	frequent
	<i>Pomaderris</i> sp.	-	frequent on rising ground south
	<i>Epacris impressa</i>	-	of the river bank

LOCATION 13. SMALL BAY BETWEEN BLUFF BEACH AND POINT DU RESSAC
Sheet 8412 72.80/66.40

<u>Ecosystem</u>	(1)	<u>Stable fore-dune behind sandy beach</u>	
<u>Formation</u>		Very sparse, tall open woodland	
<u>Tallest stratum</u>		<u>Trees over 30m, less than 10% cover</u>	
		<i>Eucalyptus globulus</i>	
Ground flora (a)		<u>Shrubs 0-2m, less than 10% cover</u>	
<u>Alliance</u>		<i>Goodenia ovata</i>	- frequent
		<i>Helichrysium backhousii</i>	"
		<i>Eucalyptus globulus</i>	"
		<i>Leptospermum scoparium</i>	occasional - frequent

- (b) Herbs 0-1m, 30-70% cover
- | | |
|--|---|
| <i>Lomandra longifolia</i> | - frequent - abundant |
| <i>Diplarrena moraea</i> | about |
| <i>Lepidosperma laterale</i> | 50% cover |
| <i>Poa labillardieri</i> | - frequent about 10% cover |
| <i>Juncus maritimus</i> | - occasional, but frequent at sand margin |
| <i>Scirpus nodosus</i> | - occasional |
| <i>Danthonia</i> spp. | " |
| <i>Deyeuxia</i> spp. | " |
| <i>Echinopogon ovatus</i> (Hedgehog grass) | " |

(2) Beach margin

- Alliance Herbs 0-1m. in localised patches
- | | | |
|------------------------------------|---|--------------------------------------|
| <i>Ammophila arenaria</i> (Marram) | - | 30-70% cover where present |
| <i>Distichlis distichophylla</i> | - | locally abundant |
| <i>Festuca littoralis</i> | - | locally abundant less than 10% cover |

(3) Semi-stable fore-dune at north end of beach (low shelf) about 0.5m)

- Alliance Herbs 0-1m, 10-30% cover
- | | | |
|----------------------------|---|----------|
| <i>Pteridium aquilinum</i> | - | frequent |
| <i>Poa poiiformis</i> | | " |
| <i>Juncus maritimus</i> | | " |
| <i>Lomandra longifolia</i> | | " |
- plus mosses

(4) Rocky dolerite headland north end of beach

- Trees Remnant *Eucalyptus globulus*, 1 specimen about 16m,
3 specimens 0-2m.

Formation Tusssock grass and low shrubland

- Shrubs 0-1.5m
- | | | |
|--|---|------------|
| <i>Leucopogon parviflorus</i> | - | abundant |
| <i>Myoporum insulare</i> (False boobyalla) | | occasional |

Herbs and grasses

- 0-1m, 70-100% cover
- | | | |
|-----------------------------------|---|-------------------|
| <i>Poa poiiformis</i> | - | frequent tussocks |
| <i>Poa labillardieri</i> | | " |
| <i>Astroloma humifusum</i> | - | occasional |
| <i>Acaena novae zealandiae</i> | | " |
| <i>Tetrarrhena distichophylla</i> | - | abundant |
| <i>Agropyron scalarum</i> | | " |
| <i>Agrostis avenacea</i> | - | occasional |
| <i>Danthonia</i> spp. | | " |
| <i>Dichelachne crinita</i> | | " |
- creeping }
grasses }

Moss, lichen and liverwort - soil cover between other species.

Notes: 1. Typical distribution of *Casuarina stricta* occurs on the head-land behind the rocky point, grading into *Eucalyptus globulus* on the landward side.

2. A local infestation of about 20 plants of the weed *Verbascum thapsus* (Great Mullein) is concentrated round the slopes up from the rocks of the small sheltered inlet on the N.W. side of the Point.

LOCATION 14	SETTLEMENT AT THE NORTH END OF THE LONG SPIT	
	Blackman Bay	Sheet 8412 70.50/58.60
<u>Ecosystem</u>	<u>Wet lands - dune slack</u>	
<u>Formation</u>	Tussock grassland	
<u>Tallest stratum</u>	Shrubs about 1.5m	
	<i>Arthrocnemum arbuscula</i>	- locally abundant along margins of waterways
	<u>Herbs, 0-1m, 30-70% cover</u>	
	<i>Juncus maritimus</i>	- about 50% cover
	<i>Lepyrodia tasmanica</i> (Branching scale rush)	- occasional
	<i>Poa poiiformis</i>	abundant on higher parts
	<i>Distichlis distichophylla</i>	- abundant
	<i>Plantago coronopus</i>	"
	<i>Salicornia quinqueflora</i>	frequent to abundant in damper hollows
	<i>Suaeda australis</i>	associated in mud areas
	<i>Samolus repens</i>	between
	? <i>Selliera</i>	<i>Arthrocnemum arbuscula</i>
	<i>Carpobrotus rossii</i>	abundant on drier banks
	<i>Rhagodia baccata</i>	beside the road

Notes: A most interesting and unique area.

LOCATION 15.	STABLE DUNE JUST WEST OF BREAM CREEK	
	Sheet 8412 70.90/58.80	
(a)	<u>Back of dune</u>	
<u>Tallest stratum</u>	<u>Shrubs to 2m, less than 10% cover</u>	
	<i>Acacia dealbata</i>	- frequent
	<i>Bursaria spinosa</i>	"
	<u>Tussocks to 1m, 70-100% cover</u>	
	<i>Lomandra longifolia</i>	- codominant, frequent
	<i>Poa poiiformis</i>	"
	<i>Pteridium aquilinum</i>	"

<i>Scirpus nodosus</i>	-	occasional
<i>Astroloma humifusum</i>		"
<i>Acaena ovina</i>		"
<i>Centuarium australe</i>		"
<i>Arctotheca calendula</i> (Capeweed)		"

Notes: Part of area planted with *Lupinus arboreus* (Tree Tulip)

- (b) Dune summit, 30-70% cover
- | | | |
|--|---|----------------|
| <i>Acacia sophorae</i> | - | 2-3m, abundant |
| <i>Rhagodia baccata</i> (Coastal saltbush) | | 1m, " |
| <i>Ammophila arenaria</i> | - | 0-1m, " |
| <i>Poa poiiformis</i> | | " |
| <i>Lomandra longifolia</i> | | " |
| <i>Pteridium aquilinum</i> | | " |
- (c) Front of dune, 70-100% cover
- | | | |
|---|---|-------------------|
| <i>Carpobrotus rossii</i> | - | carpet about 0.3m |
| <i>Tetragonia implexicoma</i> (Ice plant) | | " |
- (d) Sand in front of dune
- | | | |
|--------------------------------------|---|-----------------------|
| <i>Ammophila arenaria</i> | - | locally abundant |
| <i>Festuca littoralis</i> | | " |
| <i>Cakile maritima</i> | | occasional - frequent |
| <i>Bromus diandrus</i> (Great Brome) | - | along paths |
| <i>Holcus mollis</i> (Yorkshire Fog) | | " |

LOCATION 16.	<u>LITTLE BOOMER - BLACKMAN BAY</u>	
	Sheet 8412 69.50/55.50	
<u>Ecosystem</u>	<u>Sand spit, more or less stable</u>	
<u>Formation</u>	<u>Closed tussock grassland, 70-100% cover</u>	
<u>Alliance 1.</u>	<u>Next to strandline</u>	
	<u>1m, about 30% cover</u>	
	<i>Stipa stipoides</i>	- abundant
	<i>Gahnia filum</i>	- frequent
	<i>Arthrocnemum arbuscula</i>	"
	<u>Herbs to 0.3m, 70-100% cover</u>	
	<i>Salicornia quinqueflora</i>	-frequent - abundant
	<i>Suaeda australis</i>	"
	<i>Distichlis distichophylla</i>	"
	<i>Samolus repens</i>	"
	<i>?Selliera</i>	- occasional

Notes: A good example of a highly specialised ecosystem.

<u>Alliance 2.</u>	<u>Higher (midden) area,</u> <u>Herbs to 1m, 70-100% cover</u>	
	<i>Poa poiiformis</i>	- dominant
	<i>Cirsium vulgare</i> (Spear thistle)	- occasional
	<i>Hemarthria incinata</i> (Mat grass)	"
	<i>Distichilis distichophylla</i>	"
	<i>Medicago lupulina</i>	"
	<i>Plantago coronopus</i>	"
	<i>Scripus nodosus</i>	"
	<i>Danthonia</i> spp.	"

Notes: This area carries a typical mixture of native and introduced species characteristic of disturbed areas.

<u>LOCATION 17.</u>	<u>BLUFF ENVIRONS S.E. END OF LAGOON BAY,</u> <u>FORESTIER PENINSULA</u>	Sheet 8412 51.25/79.00
<u>Ecosystem</u>	<u>Valley and headland at road end</u>	
<u>Formation</u>	Very sparse open woodland	
<u>Tallest stratum</u>	<u>Trees 10-30m, about 10% cover</u>	
	<i>Eucalyptus globulus</i>	- on slopes
<u>Middle stratum</u>	<u>Shrubs 2-8m, less than 10% cover</u>	
<u>Alliance</u>	<i>Eucalyptus amygdalina</i>	- in valley bottom, occasional
	<i>Casuarina stricta</i>	- on headland "
	<i>C. littoralis</i>	" "
	<i>Acacia verticillata</i>	"
	<i>Leptospermum scoparium</i>	"
	<i>Pomaderris apetala</i>	"
	<i>Leucopogon parviflorus</i>	- occasional - rare
<u>Lowest stratum</u>	<u>Herbs and grasses 0-1m, 70-100% cover</u>	
<u>Alliance 1.</u>	<u>In valley bottom</u>	
	<i>Lomandra longifolia</i> (Sagg)	- frequent, locally abundant but less than 10% cover
	<i>Lepidosperma laterale</i>	
	<i>Schoenus apogon</i> (Sedge)	- abundant, to 50mm high
	<i>Cotula reptans</i>	- abundant to frequent
	<i>Hypochaeris glabra</i>	- locally abundant
	<i>Themeda australis</i>	- frequent
	<i>Astroloma humifusum</i>	"
	<i>Danthonia laevis</i>	- frequent - occasional
	<i>Poa poiiformis</i>	"
	* <i>Vulpia bromoides</i>	"
	<i>Acaena anserinifolia</i>	"
	<i>Ranunculus lappaecus</i>	"

**Carduus pycnocephalus* (Slender thistle) - occasional
patches of local abundance

Juncus maritimus to 300mm - occasional
**Anthoxanthum odoratum* (Sweet vernal) "
Oxalis corniculata (Wood sorrel) "
**Trifolium dubium* (Yellow suckling clover) "
Dianella tasmanica "
Geranium microphyllum "
Veronica gracilis "
**Anagallis arvensis* (Scarlet pimpernel) "
**Vicia sativa* (Vetch) "
Viola hederacea "
Plantago coronopus "
Gnaphalium collinum "
Eryngium vesiculosum - rare

Alliance 2.

Up slope to headland (east side of valley)

Themeda australis - frequent
Lomandra longifolia "
Astroloma humifusum "
Poa sieberana "
Diplarrena moraea (Butterfly iris) "
Goodenia lanata (Native primrose) frequent -
occasional
**Poa annua* - occasional
Aira caryophylllea "
**Briza minor* "
Brachycome angustifolia "
Helichrysum semipapposum "
Pteridium aquilinum - occasional - rare
Linum marginale (Native flax) "
Bursaria spinosa "
Astroloma humifusum "
Drosera auriculata "
Acaena ovina (sheep's burr) "
Pimelia nivea "
Epacris tasmanica - frequent - occasional
Lissanthe strigosa on north side

* introduced exotics

Alliance 3.

At cliff edge and in crevices down rock face

Casuarina stricta - up to 3m - frequent
Helichrysum reticulatum - up to 1m "
Pelargonium australe "
Carpobrotus rossii (Pig face) "
Poa poiiformis "

<u>Alliance 4.</u>	<u>Headland - very short turf about 50mm, about 70% cover</u>	
	<i>Poa poiformis</i>	- abundant
	<i>Aira caryophyllea</i>	"
	<i>Themeda australis</i>	"
	<i>Cheilanthes tenuifolia</i> (rock fern)	locally abundant
	<i>Astroloma humifusum</i>	- frequent
	<i>Leontodon taraxacoides</i> (hawk bit)	"
	<i>Acaena ovina</i>	"
	<i>Plantago varia</i>	"
	<i>Danthonia caespitosa</i>	"
	<i>Poa sieberana</i>	"
	<i>Centrolepis strigosa</i>	- frequent - occasional
	<i>C. aristata</i>	"
	<i>Tetratheca pilosa</i> (lilac bells)	- occasional
	<i>Thysanotus patersonii</i> (Twining fringe lily on <i>Tetratheca</i>)	"
	<i>Parrentucellia latifolia</i> (a semi-parasite)	"
	<i>Sebaea ovata</i> (yellow centaury)	"
	<i>Briza minor</i>	"
	<i>Tillaea sieberiana</i> (a creeping succulent)	"
	<i>Trifolium dubium</i>	"
	<i>Danthonia caespitosa</i>	"
	<i>Pelargonium australe</i>	"
	<i>Hypochaeris glabra</i>	"
	<i>Haloragis tetragyna</i>	"
	<i>Millotia tenuifolia</i>	"
	<i>Pimelia humilis</i>	"
	<i>Poranthera microphylla</i>	"
	<i>Microtis biloba</i> (onion orchid)	- rare

Alliance 5. Headland - exposed dolerite slabs about 10% surface
 Lichen cover 75-100% *Parmelia* sp.

- Notes: 1. The shrubs and trees in the area have blackened bark consistent with burning off probably at least 3 years ago.
2. The headland is particularly rich in interesting species and is worthy of conservation as a beautiful example of a rocky exposed coastal ecosystem. The rarer native species include *Microtis biloba* (Orchidaceae) and *Centrolepis aristata* (Centrolepidaceae). Many of the others are typically found together in this turf association but more rarely apart from it, e.g. *Tillaea sieberiana* (Crassulaceae), *Parrentucellia latifolia* (Scrophulariaceae), *Millotia tenuifolia* and *Poranthera microphylla* (both Compositae).
3. The introduced species (*) are noticeably concentrated in the valley area probably reflecting greater usage by visitors to the area.

LOCATION 18.	TWO MILE BEACH	
	Sheet 8412 75.00-77.00/52.00-53.00	
Ecosystem	Beach and dunes	
Alliance 1.	Sandy foreshore beside dammed lagoon.	
	<i>Cakile edulenta</i> (American sea rocket)	- dominant, abundant
	** <i>Tetragonia</i> sp.	- occasional
	<i>Festuca littoralis</i> (grazed off)	- rare
	* <i>Ammophila arenaria</i>	- 2 small roots only, otherwise entirely absent from general locality

** Differing from the two species described in Curtis' flora.

Alliance 2.	On back of stabilised dune	
Tallest stratum	Trees 10-30m, approximately 50% cover	
	<i>Banksia marginata</i>	- dominant
	<i>Exocarpus cupressiformis</i>	- occasional
	<i>Acacia verticillata</i>	"
Middle stratum	Shrubs 5-10m, approximately 30% cover	
	<i>Banksia marginata</i>	- occasional
	<i>Exocarpus cupressiformis</i>	"
	<i>Acacia verticillata</i>	"
Lowest stratum	Herbs 0-1m, approximately 30% cover	
	<i>Pteridium aquilinum</i>	- frequent - occasional
	<i>Lomandra longifolia</i>	
Alliance 3.	Behind dune - 'slack' area	
Tallest stratum	Trees 10-30m, 100% cover	
	<i>Banksia marginata</i>	- frequent, dominant
	<i>Bursaria spinosa</i>	- frequent
	** <i>Leucopogon lanceolatus</i>	"
Middle stratum	Understorey, about 1-3m	
	<i>Pteridium esculentum</i>	- frequent, dominant
	<i>Olearia lirata</i>	- occasional
	<i>Pittosporum bicolor</i>	"
	<i>Bursaria spinosa</i>	"
Lowest stratum	Herbs to 1m	
	<i>Lomandra longifolia</i>	- occasional
	<i>Bursaria spinosa</i>	
	<i>Dichondra repens</i>	

(Soil surface bare except for leaf litter)

** Previously only recorded from the North coast of Tasmania though occurring also in Victoria and New South Wales.

Alliance 4.	Dune top	
	<i>Correa alba</i>	- co-dominant, about 1m
	<i>Banksia marginata</i>	"

	<i>Helichrysum rosmarinifolium</i>	-	locally abundant occasional
	<i>Leucopogon lanceolatus</i>		"
	<i>Pteridium aquilinum</i>		"
<u>Alliance 5.</u>	<u>Dune face (seaward side) (very steep, eroding)</u>		
	<i>Carpobrotus rossi</i>	-	frequent
	<i>Correa alba</i>		"
	<i>Cakile edulenta</i>	-	occasional
	<i>Juncus maritimus</i>		"
<u>Alliance 6.</u>	<u>Dune blowout bordering lagoon (midway round Two Mile Beach)</u>		
	<u>Shrubs 5-10m</u>		
	<i>Melaleuca squarrosa</i>		
	<i>Acacia melanoxylon</i>	{	all being engulfed by sand very recent
	<i>Leptospermum scoparium</i>		
	<i>Banksia marginata</i>		
<u>Alliance 7.</u>	<u>Lagoon margin</u>		
	<u>Herbs to about 50mm tall, 75% cover, water brackish</u>		
	<i>Enteromorpha intestinalis</i> (alga)	-	frequent locally abundant
	<i>Cotula longipes</i> - on drier patches -		frequent
	<i>Selliera</i>		"
	<i>Hydrocotyle muscosa</i>		"
	<i>Lobelia alata</i>		"
	<i>Eryngium vesiculosum</i>	-	rare
	<i>Villarsia exaltata</i>	-	rare, occasional
<u>LOCATION 19.</u>	<u>HILL BETWEEN TWO MILE BEACH AND LAGOON BAY</u>		
	Sheet 8412 52.50/77.30		
<u>Formation</u>	<u>Tall open forest</u>		
<u>Tallest stratum</u>	<u>Trees over 30m, about 50% cover</u>		
	<i>Eucalyptus globulus</i>	-	dominant, frequent
	<i>E. obliqua</i>	-	occasional
<u>Middle stratum</u>	<u>Shrubs 2-4m, about 50% cover</u>		
	<i>Exocarpus cupressiformis</i>	-	occasional
	<i>Acacia verticillata</i>		"
	<i>Bursaria spinosa</i>		"
	<i>Helichrysum rosmarinifolium</i>		"
<u>Lowest stratum</u>	<u>Herbs to 1m, in open areas, 100% cover</u>		
	<i>Pteridium esculentum</i>	-	frequent
	<i>Helichrysum rosmarinifolium</i>		"
	<i>Leucopogon lanceolatus</i>		"

<i>Lomandra longifolia</i>	-	frequent
<i>Astroloma humifusum</i>		"
<i>Viola hederacea</i>		"
<i>Adiantum aethiopicum</i>	-	frequent - occasional
<i>Acaena ovina</i>	-	occasional
<i>Centaurium erythraea</i>		"
<i>Kennedyia prostrata</i>		"
<i>Dianella tasmanica</i>		"

Notes: There appear to be no introduced exotic species in this area.

LOCATION 20. DRAINED SALTINGS WEST OF LAGOON BAY
Sheet 8412 51.80/77/50

<u>Formation</u>	<u>Very sparse open woodland</u>	
<u>Tallest stratum</u>	<u>Trees 10-30m, less than 10% cover</u>	
	<i>Eucalyptus globulus</i>	- many of specimens dead
	<i>Acacia verticillata</i>	- occasional, about 10m
<u>Middle stratum</u>	<u>Shrubs about 5m, about 50% cover</u>	
	<i>Leptospermum scoparium</i>	- abundant, dominant
	<i>Acacia verticillata</i>	- frequent
	<i>Olearia lirata</i>	"
	<i>Helichrysum rosmarinifolium</i>	"
	<i>Pomaderris elliptica</i>	- occasional
	<i>Melaleuca squarrosa</i>	"
<u>Lowest stratum</u>	<u>Shrubs and Herbs 1-3m</u>	
	<i>Juncus maritimus</i> 1-2m	- frequent
	<i>Goodenia ovata</i>	"
	<i>Eucalyptus ovata</i> 1m	- rare
<u>Formation</u>	<u>Open ground between areas of trees and shrubs:</u>	
	<u>Closed herbfield, heavily grazed</u>	
	* <i>Anthoxanthum odoratum</i> (sweet vernal grass) - frequent	
	* <i>Lotus corniculatus</i> (bird's foot trefoil) "	
	* <i>Trifolium dubium</i>	- occasional
	* <i>Vulpia bromoides</i>	"
	<i>Juncus planifolius</i>	"
	<i>Cotula reptans</i>	"
	<i>Oxalis corniculata</i>	"
	<i>Dichondra repens</i>	"
	<i>Acaena anserinifolia</i>	"
	<i>Centaurium erythraea</i>	"
	<i>Marchantia</i> sp. (liverwort)	"

* Introduced exotic species.

LOCATION 21.

COASTAL STRIP VICINITY OF CAPE SURVILLE

Rainforest species (collected by R. Millington)

1. *Bedfordia salicina*
2. *Pultenaea daphnoides* var. *obcordata* - native daphne
3. *Olearia viscosa*
4. *Zieria arborescens* - stinkwood
5. *Olearia argophylla* - musk
6. *Pomaderris apetala* - dogwood
7. *Cyathodes glauca* - cheeseberry
8. *Rumohra adiantiformis* - shield hare's foot fern
9. *Microsorium diversifolium* - kangaroo fern
10. *Atherosperma moschatum* - sassafras
11. *Callistemon veridiflorus* - bottle brush